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2. Finkler, R. S. and Becker, S.: J. Am. M. Women's A. 1:152, (Aug.) 1946
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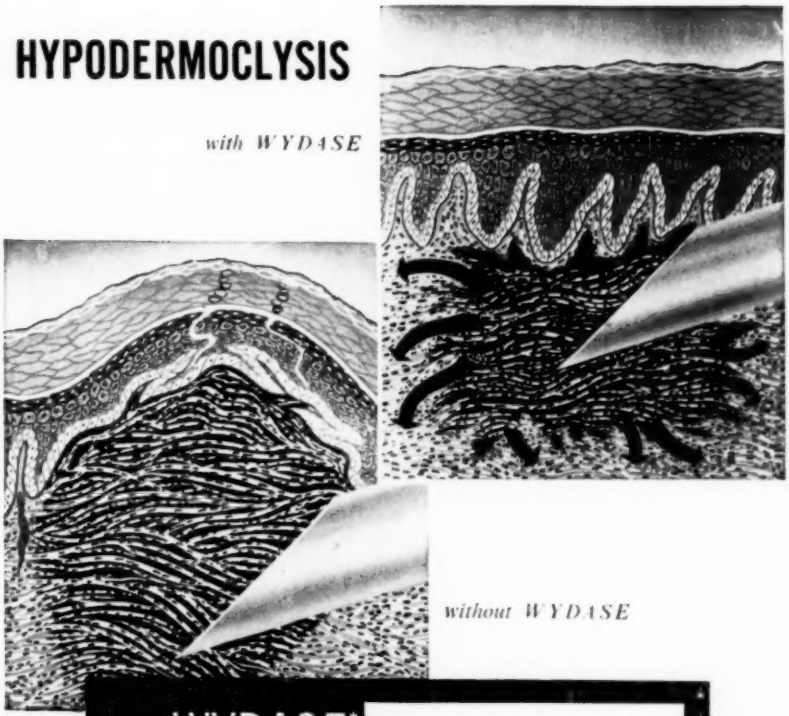

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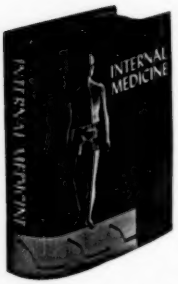

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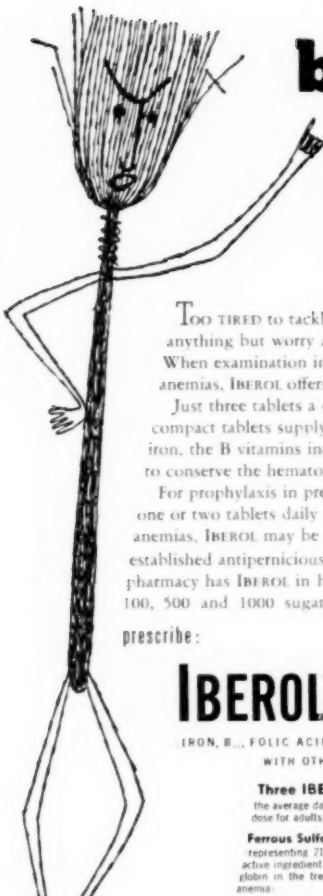

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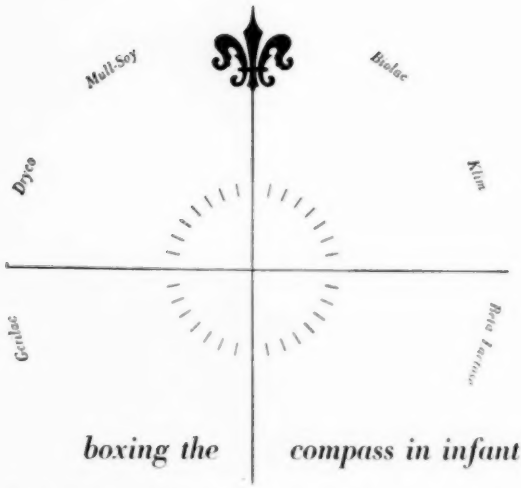

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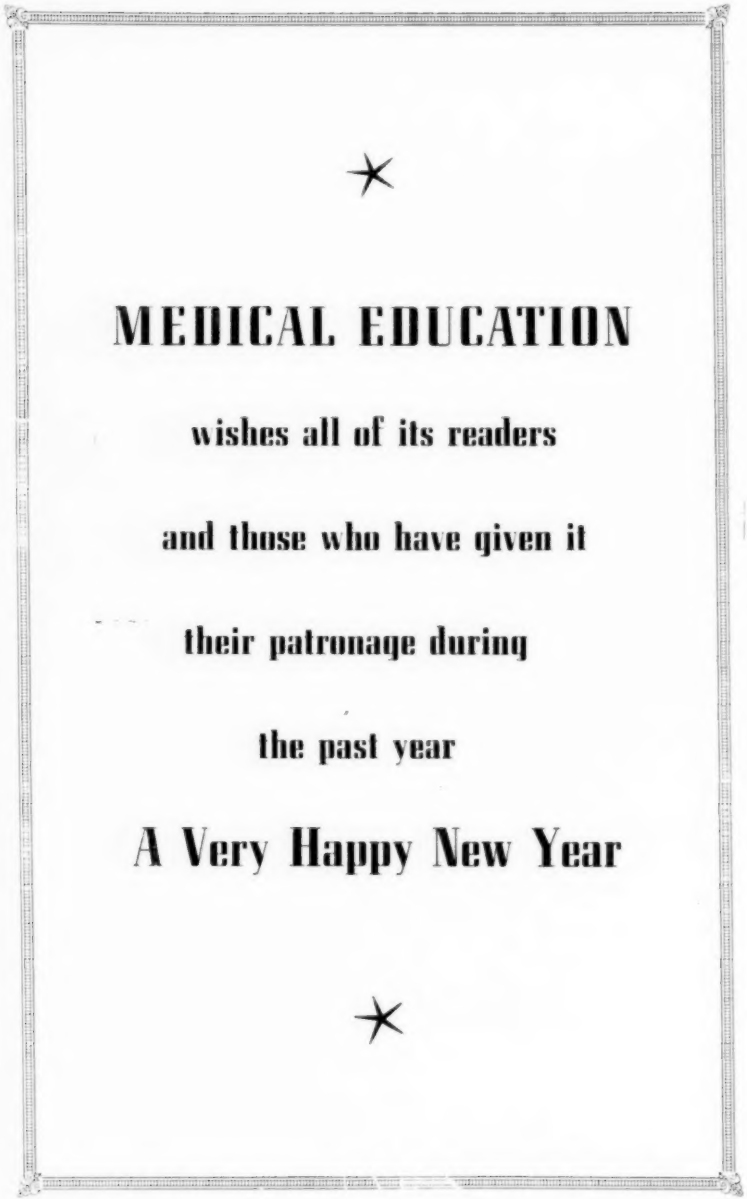
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MEDICAL EDUCATION

Volume 26 No. 1 January, 1951

Study of Applicants for Admission to United States Medical Colleges—Class Entering in 1950-1951

JOHN M. STALNAKER
Director of Studies, Association of American Medical Colleges
Chicago, Illinois

There was a drop of about 2,000 students applying to the 79 medical schools in the United States for admission in 1950-1951 as contrasted with the previous year. The drop in the number of applications was even greater, almost 7,000. Each student, on the average, applied to 3.7 schools. Although more individuals were accepted than at any time since medical schools were reorganized in 1910, 15,026 who sought admission were not accepted. Doubtless, many of these rejectees will reapply another year.

Records on number of applications and numbers of applicants are compiled by the central office of the Association. The basic source data are supplied by the medical schools who this year not only prepared and submitted a 3 x 5 card for each applicant, but also checked for discrepancies between the central office and the school counts wherever such occurred. To the staffs of the schools who undertake this laborious task thanks are due. Without their cooperation such a study as this one would be impossible. Without their friendly assistance, the work would have been even more arduous.

Each medical school is asked to send to the Association office an index card for every person who presents a completed application. The card gives the full name of the applicant, the name of the medical school reporting, the undergraduate college last attended, the home address of the applicant, and the action of the medical school in accepting or not accepting the applicant. From these 81,931 index cards, punched cards were prepared which, in turn, were used in preparing the tabulations reported here.

Table 1 is based on the results reported up to November 1, 1950. It gives the number of applications reported by each medical school. It may be assumed to be essentially complete. The figure for acceptances includes those applicants who withdrew their application after being offered a place in the freshman class.

Not all medical schools define an applicant in the same way. Some medical schools admit students much earlier than others. Without detailed information on these matters, which it has not proved feasible to collect, one must be cautious in making comparisons among the medical schools.

TABLE 1. NUMBER OF COMPLETED APPLICATIONS RECEIVED BY EACH MEDICAL SCHOOL

Medical School	Number of Applications Accepted*	Not Accepted	Total
Alabama	56	221	277
Albany	95	1695	1790
Arkansas	94	58	152
Baylor	138	552	690
Boston	127	1478	1605
Bowman Gray	70	1105	1175
Buffalo	83	965	1048
California S F	85	530	615
Chicago Medical	87	1503	1590
Chicago, Univ. of	145	1507	1652
Cincinnati	115	1343	1458
Colorado	90	110	200
Columbia P S	143	2241	2384
Cornell	85	2536	2621
Creighton	114	591	705
Dartmouth	29	636	665
Duke	105	992	1097
Emory	80	444	524
Georgetown	179	1072	1251
George Washington	164	2561	2725
Georgia	94	149	243
Hahnemann	139	1701	1840
Harvard	125	873	998
Howard	78	627	705
Illinois	173	446	619
Indiana	160	746	906
Iowa	125	72	197
Jefferson	213	2583	2796
Johns Hopkins	95	561	656
Kansas	104	181	285
Louisiana	133	471	604
Louisville	108	241	349
Loyola	133	1095	1228
Marquette	141	1210	1351
Maryland	108	344	452
Medical Evangelists	99	199	298
Meharry	77	373	450
Michigan	177	614	791
Minnesota	127	269	396
Mississippi	63	196	259
Missouri	51	166	217
Nebraska	91	193	284
New York Medical	173	2888	3061
New York University	162	2116	2278
North Carolina	69	297	366
North Dakota	39	52	91
Northwestern	210	1876	2086
Ohio	166	423	589

Medical School	Number Applications Accepted*	Not Accepted	Total
Oklahoma	85	113	198
Oregon	79	303	382
Pennsylvania	131	2673	2804
Pittsburgh	108	816	924
Rochester	95	2010	2105
St. Louis	189	2173	2362
South Carolina	65	145	210
South Dakota	45	223	268
Southern California	92	778	870
Southwestern	137	245	382
Stanford	91	735	826
State Univ., New York City	233	2749	2982
State Univ., Syracuse	108	2252	2360
Temple	150	2942	3092
Tennessee	142	74	216
Texas	223	237	460
Tufts	161	673	834
Tulane	139	1781	1920
Utah	58	155	213
Vanderbilt	71	1344	1415
Vermont	47	192	239
Virginia, Univ. of	90	880	970
Virginia, Med. Col. of	110	410	520
Washington, Univ. of	85	296	381
Washington, St. Louis	139	2006	2145
Wayne	96	423	519
Western Reserve	103	1772	1875
West Virginia	37	133	170
Wisconsin	84	82	166
Woman's Medical	62	240	302
Yale	108	1094	1202
TOTAL APPLICATIONS (Not individuals)	8880	73,051	81,931

*Includes accepted applicants who subsequently withdrew.

This table is based on a count of individual cards submitted by each medical school up to November 1, 1950.

Two schools received more than 3,000 applications each, for the 125 places these schools have available in the freshman year, or about 24 applicants for each place. On the other hand, six medical schools, all having residence restrictions, received less than 200 applications each, the smallest number being 91.

Medical schools differ from one another in many ways. The chance of an individual being accepted by a specific school is determined not by the figures reported here but by evaluating the desirability of the applicant from the point of view of that school and comparing his desirability with that of the others applying. Some schools receive many applications from individuals judged

to be unsuited for that school, regardless of the number of applicants applying.

Table 2 gives comparative figures for the past four years. The year 1949-1950 was the peak year. There is a tendency noted for each applicant to apply to more schools.

Tables 3, 4 and 5 are based on a study of records received through October 15 at which time 81,638 applications had been received, or 293 fewer than are reported in table 1. It is believed that none of the conclusions based on these figures would be changed by the addition of the 293 applications.

Table 3 shows the number of applicants who applied to one, two, three, or more medical schools. While 8,866 applied to only one medical school, one man applied to 49 medical schools and was rejected by each one; the same result was obtained by the two men who each applied to 40 medical schools. However, three men who applied to 33 schools each gained an acceptance.

It may be noted that while 26 per cent of applicants who made applications

TABLE 2. A COMPARISON OF THE NUMBER OF APPLICANTS FOR THE PAST FOUR YEARS

Year	Number of Applications	Number of Individuals	Applications Per Individual
1947-48	56,279	18,829	3.0
1948-49	81,662	24,242	3.4
1949-50	88,244	24,434	3.6
1950-51	81,931	22,279	3.7

to but one school were accepted, 35 per cent were accepted of the group applying to two schools, 39 per cent of those applying to three schools, and 40 per cent of those applying to four schools. It would almost seem as if the more applications made, the better the probability of acceptance.

Table 4 shows the number of individuals receiving multiple acceptances. Of the 7,254 persons who were accepted, 1,273 received acceptance by two or more schools. Two men were accepted by six schools.

Table 5 gives the breakdown of the individuals applying according to the state of residence. Almost one-half of the applicants come from seven states which are, in order of number of applicants: New York, Pennsylvania, California, Ohio, New Jersey, Illinois and Texas. Of these states, New York only recently has started to operate a medical school. New Jersey does not have a medical school. Twenty-three per cent of the applicants from New York were accepted; 50 per cent of the applicants from Texas were accepted.

Because of the pressures of time, it was not possible to make a study of the test scores on the Medical College Admission Test for the various groups described here. Such a study is planned for the 1951-1952 group.

TABLE 3. APPLICANTS CLASSIFIED BY NUMBER OF APPLICATIONS MADE

Number of Applications Made	Number of Individuals		Total		
	Accepted*	Not Accepted	Men	Women	Individuals
1	2324	6542	8305	561	8866
2	1177	2174	3159	192	3351
3	981	1543	2367	157	2524
4	694	1058	1663	89	1752
5	521	798	1255	64	1319
6	372	571	901	42	943
7	252	482	702	32	734
8	208	385	564	29	593
9	145	273	404	14	418
10-14	373	756	1092	37	1129
15-19	140	278	408	10	418
20-24	41	113	151	3	154
25-29	20	37	56	1	57
30-34	6	10	16	0	16
35-49	0	6	6	0	6
TOTAL	7254	15026	21049	1231	22280

*By one or more medical schools. Not accepted indicates not accepted by any of the schools to which application was made.

TABLE 4. NUMBER OF APPLICANTS (INDIVIDUALS) ACCEPTED BY THE NUMBER OF MEDICAL SCHOOLS INDICATED

No. of Acceptances	Number of Individuals		
	Men	Women	Total
1	5660	321	5981
2	973	49	1022
3	187	12	199
4	41	3	44
5	6	....	6
6	2	....	2
Total Accepted	6869	385	7254
Not Accepted	14180	846	15026
Total Applicants	21049	1231	22280

TABLE 5. NUMBER OF INDIVIDUALS FROM EACH STATE APPLYING TO ONE OR MORE MEDICAL SCHOOLS

State	Accepted			Not Accepted			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Alabama	103	4	107	226	9	235	329	13	342
Arizona	22	2	24	44	1	45	66	3	69
Arkansas	95	5	100	66	4	70	161	9	170
California	341	23	364	939	79	1018	1280	102	1382
Colorado	75	6	81	97	5	102	172	11	183
Connecticut	101	8	109	271	18	289	372	26	398
Delaware	15	1	16	23	0	23	38	1	39
District of Columbia	44	4	48	187	11	198	231	15	246
Florida	88	2	90	247	18	265	335	20	355
Georgia	133	6	139	192	9	201	325	15	340
Idaho	16	0	16	46	1	47	62	1	63
Illinois	314	15	329	668	43	711	982	58	1040

State	Accepted			Not Accepted			Total		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
Indiana	169	8	177	334	22	356	503	30	533
Iowa	133	7	140	94	9	103	227	16	243
Kansas	106	2	108	147	6	153	253	8	261
Kentucky	111	6	117	212	9	221	323	15	338
Louisiana	160	11	171	217	12	229	377	23	400
Maine	24	0	24	41	1	42	65	1	66
Maryland	112	13	125	143	11	154	255	24	279
Massachusetts	209	15	224	492	22	514	701	37	738
Michigan	272	12	284	486	27	513	758	39	797
Minnesota	132	11	143	185	13	198	317	24	341
Mississippi	84	3	87	97	5	102	181	8	189
Missouri	132	3	135	211	12	223	343	15	358
Montana	23	4	27	51	2	53	74	6	80
Nebraska	117	4	121	137	9	146	254	13	267
Nevada	3	0	3	8	1	9	11	1	12
New Hampshire	15	1	16	47	1	48	62	2	64
New Jersey	257	15	272	741	46	787	998	61	1059
New Mexico	11	1	12	25	2	27	36	3	39
New York	775	60	835	2593	154	2747	3368	214	3582
North Carolina	134	5	139	280	12	292	414	17	431
North Dakota	47	2	49	43	2	45	90	4	94
Ohio	385	22	407	658	30	688	1043	52	1095
Oklahoma	95	5	100	118	6	124	213	11	224
Oregon	67	2	69	59	7	66	126	9	135
Pennsylvania	560	24	584	1506	87	1593	2066	111	2177
Rhode Island	36	0	36	98	5	103	134	5	139
South Carolina	76	2	78	150	5	155	226	7	233
South Dakota	47	1	48	43	2	45	90	3	93
Tennessee	160	8	168	147	11	158	307	19	326
Texas	362	21	383	363	18	381	725	39	764
Utah	52	2	54	86	1	87	138	3	141
Vermont	24	2	26	33	2	35	57	4	61
Virginia	150	8	158	230	10	240	380	18	398
Washington	124	7	131	217	15	232	341	22	363
West Virginia	60	4	64	157	12	169	217	16	233
Wisconsin	156	9	165	164	9	173	320	18	338
Wyoming	21	1	22	19	0	19	40	1	41
Canada	5	0	5	86	5	91	91	5	96
U. S. Possessions	51	3	54	231	25	256	282	28	310
Foreign	44	3	47	187	16	203	231	19	250
Not Stated	21	2	23	38	4	42	59	6	65
TOTAL Number of Individuals	6869	385	7254	14180	846	15026	21049	1231	22280

Trends in Giving and Fund Raising for Colleges and Universities*

ARNAUD C. MARTS
President, Marts and Lundy, Inc.
New York, N. Y.

Trends in giving are upward and climbing still higher. Last year giving to colleges and universities probably crossed the two hundred million dollar mark, compared with the highest year in the fabulous 1920 decade, of one hundred and thirty-nine million.

Giving to Protestant churches totaled over one billion dollars last year for the first time in history. This compared with a total in 1948 of eight hundred and sixty-two million, an increase of nearly thirty per cent in the last year. I do not have the figures on the giving to Catholic churches, but I have no doubt that the trend is just as strongly upward in that great dynamic organization.

Total philanthropic giving last year went well over the four billion mark, compared with about two and one-quarter million of ten years ago.

The trend is upward in all categories of income tax payers for which figures are available. The latest public figures of the Treasury Department are for the year 1947, and following are comparisons between that year and the average in the 1920 decade:

Comparison of contributions of Income Tax payers in the upper brackets in the 1920 decade and in 1947, the latest year for which tax figures are available:

Number of tax payers	Total Income	Total contributions	%
	INCOMES OF $500,000 AND OVER		
	Average Annual Figures for 1922-29		
747	$ 999,526,000	$ 34,998,000	.035
	Figures for 1947		
416	416,757,000	33,126,000	.08

In 1947 the incomes of taxpayers in this bracket were only 42 per cent of the income in 1922-29. But their contributions were 94.4 per cent.

Number of tax payers	Total Income	Total contributions	%
	INCOMES OF $150,000 TO $500,000		
	Average Annual Figures for 1922-29		
4,158	$1,162,961,000	$ 31,533,000	.027
	Figures for 1947		
4,075	927,225,000	51,464,000	.055

In 1947 the incomes of taxpayers in this bracket were only 80 per cent of the income in 1922-29. But their contributions were 163 per cent.

*Address before the Annual Conference of the American Alumni Council, Harvard University, Cambridge, Massachusetts, July 10, 1950. Reprinted by permission from Bull. A. Am. Colls., 36:361-373 (Oct.) 1950.

INCOMES FOR $50,000 TO $150,000
Average Annual Figures for 1922-29

Number of tax payers	Total Income	Total contributions	%
23,918	$2,169,592,000	$ 53,240,000	.024
	Figures for 1947		
44,402	3,285,690,000	124,620,000	.038

In 1947 the incomes of taxpayers in this bracket were 151.4 per cent of the income in 1922-29. But their contributions were 234 per cent.

INCOMES OF $25,000 TO $50,000
Average Annual Figures for 1922-29

Number of tax payers	Total Income	Total contributions	%
53,930	$2,152,000,000	$ 43,830,000	.02
	Figures for 1947		
146,782	4,923,497,000	136,891,000	.027

In 1947 the incomes of taxpayers in this bracket were 228 per cent of the income in 1922-29. But their contributions were 312 per cent.

INCOMES OF $25,000 TO OVER $1,000,000
Average Annual Figures for 1922-29

Number of tax payers	Total Income	Total contributions	%
82,753	$6,484,079,000	$162,601,000	.025
	Figures for 1947		
195,675	9,553,199,000	346,001,000	.034

In 1947 the incomes of taxpayers in this bracket were 147.3 per cent of the income in 1922-29. But their contributions were 205.3 per cent.

Trends in Fund-Raising for Colleges and Universities

The major trend is toward more and better attention on the part of university administrators to fund-raising, toward the appointment of full-time administrative officers whose only duties will be fund-raising and public relations and toward bringing fund-raising into the administrative family as a permanent, respected and useful member of that family.

Before discussing these trends in more detail, I would like to mention certain errors or deficiencies in the public relations and fund-raising policies and program of colleges and universities during the past fifteen years. A brief discussion of these errors will, I hope, provide a foundation on which to make my constructive suggestions for the better administration of fund-raising in the years ahead.

Colleges and university administrators have made three important errors in public relations during the past fifteen years in my opinion. Two of them were errors in what they repeatedly said and published; the third is an error of omission, which may be corrected and retrieved in the years ahead.

1. The first massive public relations error was in continuously announcing to all who would listen that "the day of large financial gifts to higher education was over." This started in 1933 in the first shock of sur-

prise over the heavy tax laws of the early New Deal, and continued right down to 1949. It was only arrested when giving to colleges and universities surged to enormous totals after World War II which have now become 50 per cent higher than in the highest year of the lush 1920 decade. During the past five years there have been large individual gifts and bequests to higher education that have exceeded in size anything ever previously given, except from a few families—like Rockefeller, Carnegie, Duke—whose names have become world famous for their benefactions.

This public relations error put a chill on some potential philanthropy, which would, in my opinion, have greatly exceeded its present high performance had not so many highly respected college and university presidents been so insistent and persistent in their assertions that philanthropy would never be able again to match its gifts of the 1920 decade.

Following are a few quotations from educational and public leaders during the past seventeen years which illustrate what I regard as a major public relations error which our colleges and universities made in that period of time:

1933 "In the history of the University we have arrived at the end of an era during which most generous and great gifts were received from many different individuals for the endowment and enrichment of the work of the University."

1934 "It would seem that the day of large gifts may be over."

1935 "There will be fewer men giving millions of dollars to this institution; this seems to be clearly proven by the evidence of the last three or four years."

1938 "When the goose is killed, it stops laying golden eggs. When the seed corn is destroyed there can be no crop. The future solicitor will be compelled to make his appeal for dollar and dime contributions!"

1939 "I am convinced that existing tax structures will broaden the base of giving and prevent a drying up of philanthropic funds that otherwise might accompany a decline in large fortunes."

1946 "Colleges will not get large gifts any more."

1947 "High taxes have put an end to big scale, private largesse. Gone is the day when a John D. Rockefeller could give $35,000,000 to the University of Chicago."

1948 "The era of big donors wanes, so profesional fund-raisers must turn ever more to mass media in order to broaden the base of a multi-billion business."

The figures I gave at the outset prove how wrong these prophecies were.

2. The second major public relations error is the one which began during the war as educational administrators began to plan postwar propaganda for federal support for higher education. They used the "fear" approach. Typical of their speeches and articles were:

"The plight of the colleges."

"Higher education faces its greatest crisis."

"The nation's bogged-down educational system."

"Pity the poor college president."

and so on.

I shall not discuss the merits or demerits of the proposed plans for federal appropriations for colleges and universities. It is not my purpose in this

presentation to take any position either for or against them. My point is that this "fear" propaganda was a wrongful approach, because it did not reflect the true strength and power of our great institutions of higher education.

The week before last, the American College Public Relations Association held its annual meeting at the University of Michigan. The educational editor of *The New York Times* published a very interesting report on the discussions at that conference. In his report he said:

> Many termed the financial situation the number one problem facing higher education today. Spokesmen for the small liberal arts institutions warned that unless help were forthcoming soon, many of the nation's smaller colleges might be forced to shut their doors or to reduce existing academic standards.
>
> By the end of the year large numbers of institutions will be operating in the red. Even well-established universities are having their financial troubles. Tulane University, for example, disclosed that for the first time in its 117 years of existence it is facing a deficit.
>
> "What hope is there for the smaller college?" asked Paul Farix of Hendrix College, Arkansas (590 students). "Where will we get the money to continue to operate?"

Let us compare the present "plight" of the colleges and universities with the situation of the oil industry of 25 years ago.

At that time, the rather recently developed motor and aviation industries were placing such demands upon the known petroleum supply that there was a general fear and belief that all the oil stocks of the world would be used up completely in 25 years. At that time, the total proved oil reserves totaled 23 billion barrels and the annual consumption was 1¼ billion barrels. What a sound mathematical basis that was for the prophesiers that many of us well remember that oil reserves of the world would be utterly depleted before 1950!

Well, the oil industry didn't lie down under that fear. They put their best brains and energy and courage into *measuring up* to the growing demand for oil, instead of complaining about their tough lot. They have spent billions of dollars in advertising to stimulate greater consumption, and billions also in research, in exploration and in efficiency of production. They have raised consumption to 3½ billions of barrels a year, and they have a proved reserve of 77 billions of barrels and an estimated reserve of 545 billions of barrels. Mr. Charles F. Kettering recently announced that in his opinion there is enough reserve fuel in the ground for one thousand years.

Let me read you some of the pessimistic prophecies about oil shortages and you may enjoy comparing them mentally with some of the current prophecies about "the plight of our colleges."

In 1874, the State Geologist of Pennsylvania, where America's first oil well had been discovered fifteen years before, reported, "Everything which by general acceptance can be denominated as the oil region embraces 3115 square miles. The present yearly output is over 24 million barrels. Some day the check will come back endorsed 'No Funds', and we are approaching that day very fast."

In 1908, the Director of the U. S. Geological Society estimated we might find 8 billion barrels in the United States.

And even in 1944, our leaders at Washington announced "we are running out of oil." Shades of Louisiana, Oklahoma, Texas and the Continental shelf!

Do you see any parallel here? It seems to me that I do. I see a courage to face a problem, a great faith in the institution which faces the problem and a dedication of brains and energy to find the solution. I wish our college and university administrators would give public evidence of a great faith in the American college and university, a sturdy courage to face all and any problems that beset these noble institutions and a dedication of brains and energy to overcome those problems and carry their institutions on to greater and finer service to America and the world.

Hospitals also provide an illustration of what the right approach can accomplish. Fifteen years ago, the hospital was the problem child of philanthropy. Do you remember the pessimistic prophecies about the future of the hospital?

Then came a change in the public relations approach of the hospitals. Hospital administrators decided to stop publicizing their headaches and to begin to display their great service to the community. Today hospitals are raising perfectly unbelievable sums for their development,—millions of dollars, when 15 years ago it was next to impossible to raise a hundred thousand.

I believe this fear approach has been a public relations error of massive proportions which will distort the public's image of our colleges and universities for a long time to come.

3. The third public relations error has been one of omission, in my opinion. Colleges and university administrators are failing to give the public any adequate understanding or interpretation of the basic function of higher education in our whole economic, political, cultural and spiritual life as a nation. Our whole future as a people depends in a large measure upon our qualities of mind and character and spirit, and our colleges and universities are making an incomparable contribution to those qualities.

Our economic wealth of the future, for instance, will be created out of the minds of men and women. Every month, or oftener, a college-trained man is creating an idea for a new product, or is devising a better way to make an old product. Our whole expanding economy is based upon the inventiveness of our trained men and women. I would like very much to see an appraisal of the new wealth that has been created by the present generation of college graduates. I dare say it would total many billions of dollars.

EXAMPLES OF NEW WEALTH CREATED BY COLLEGE-TRAINED MEN

1. Representatives of the United States Department of Agriculture who imported 2 orange trees, in 1875, to California and created the citrus industry

of that state, which is now worth about $50,000,000 a year to the state.

2. Edgar McFadden, a farm boy from the South Dakota State College, who developed "Hope" wheat with rust resistance. This wheat is said to have added $150,000,000 to the value of the annual wheat crop of the four northern wheat-producing states.

3. Charles M. Hall, a college student of Oberlin College, who invented the modern method of manufacturing aluminum on a universal scale and founded the Aluminum Company of America. Aluminum has produced billions of dollars of new wealth and made commercial flying practical.

4. Niels Hansen, an Iowa State College boy who introduced the Russian Gitniak grass to the prairie states of the west. It is now the wonder grass which has reclaimed millions of acres of eroded land in the west and has added hundreds of millions of dollars of value to their farm produce.

5. Doctors Lewis and Gilliland of M. I. T. who created the industrial process of catalytic cracking fuel oil. Three hundred million dollars has been invested in industrial buildings for the use of their patents in the cracking of fuel oil and literally billions of dollars of new wealth are being created in these industrial buildings.

6. College trained men in Florida and at Cambridge produced the frozen concentrated orange juice which has, in the last five years, added hundreds of millions of dollars to the Florida citrus fruit industry.

7. University trained men at the University of Florida thought up the plan of bringing Brahman cattle from India to cross with the native Florida cattle that could not resist Florida ticks and heat. The present prosperous cattle industry of Florida is based upon this development.

8. University trained men of Georgia and the Carolinas and Alabama experimented with new types of grass and clover fodder which grow all year round and provide pasturage for cattle. Hundreds of millions of dollars of new wealth are being developed through development of the cattle industry through the southeast and this is going to be an important factor in ending the single crop "tobacco road" conditions of that area.

9. University trained scientists who have developed the new chemical discoveries, such as plastics, in the industrial field, and many modern health-giving and life-saving drugs in the medical field.

Also out of the minds and spirits of men come the solution to other complicated problems of our society, better labor-management relations, greater cooperation between groups and classes, finally a sound formula for freedom and for world peace. Why don't our educators tell us more about the enormous values which are being created for us each year in all these fields by men and women whose minds and spirits were enlarged by their college experiences? If a manufacturing concern had comparable products to display, they would fill the air and the printed pages with their justifiable boasting.

Our colleges and universities will continue to receive generous support,

on a rising level, from individuals, corporations and foundations. This support can be greatly increased in the years ahead when our educational administrators will stop publicizing their headaches and their problems, and will begin to set before the American people a true display of the power and glory and inspiration of these institutions which have done so much to help make America become our generation's greatest example of freedom, prosperity and social well-being throughout the world.

When any industry produces an excellent product which the people want, and in spite of that product and public desire for it, the industry is unable to operate successfully, then probably its failure is to be found in its poor salesmanship.

Our colleges and universities are producing an excellent product and our people need and want that product. Why, then, do we hear all the talk about crises and problems and emergencies in higher education? Perhaps the answer is to be found in the college's doing a poor sales job. Of course, in academic circles we don't call it poor salesmanship. We call it poor public relations.

Fortune magazine recently commented: "To many a professor of economics serious talk about salesmanship is like serious talk about cheerleading. Most college men look down upon personal selling as something beneath them."

But whether we call a college's failure that in salesmanship, or that in public relations, is it not likely that our colleges and universities are lacking in their ability to tell their inspiring stories of service and usefulness to the public in an effective and convincing manner?

It would be worth while, in my opinion, for every college and university administrator who is concerned with developing public support for his institution, either through voluntary giving or taxation, to read the article entitled "American Salesmanship" in the September 1949 issue of *Fortune* magazine. This is not a discussion of selling techniques, nor tricks, but is a convincing statement as to the fundamental importance of a sales or public relations attitude in the top executives of a business. If a college or university executive will, in reading that article, make a mental substitution of the word *university* for the word *industry*, whenever the latter word occurs, I believe he will be greatly helped in his efforts to gain wide public appreciation and support for his institution.

Following are some quotations from AMERICAN SALESMANSHIP in the September, 1949, issue of *Fortune* magazine:

"The major cause of the 1949 recession is that American salesmanship fell down on the job."

"The only shortage, and the most serious shortage, is the shortage of creative salesmanship. Until this is corrected, we will be long on many goods."

"The most important education job ahead of industry is to cultivate a new spirit of salesmanship permeating all its activities."

"Many a company still curtails or cancels advertising when sales fall off. That is just when it needs this advertising the most. And it increases advertising when it can 'afford' to do so. That is just when it needs the advertising least."

Following are a few concepts and big ideas that are typical of the constructive ones that in my opinion colleges and universities could and should be selling to the American public:

"America's future wealth is being created by the minds of men."

"Our colleges and universities are operating at top capacity and efficiency."

"Industry and business prefer and need college-trained men and women."

"The present generation of college graduates have created billions in new wealth."

"College-trained men and women are needed for society's new complicated problems."

"The problems of peace need more people trained to know and to think."

"Students in college have tripled in number since the war."

"Higher education is the cornerstone of America's well-being."

"The University is civilization's most enduring institution."

"Today's college graduates have broader interests and deeper understanding of public concerns."

Our colleges and universities can win ample public support, in my opinion, to meet all their operating problems, whether that support be from voluntary philanthropy, or from tax appropriations, or from business, or from corporation grants, or from all combined. There is a tremendous potential affection and appreciation in America for our colleges and universities. Modern, proper, dignified salesmanship and public relations could readily bring this latent affection to the boiling point of ample financial support.

These public relations methods are well known to industry and business, and they could be readily adapted to serve the needs of higher education. These methods include first an attitude on the part of presidents and trustees and administrative officers, of willing enthusiastic desire to tell their story to the American public. These methods include putting this total program under the charge of a highly placed administrative officer of the university. They include the cultivation of individuals, corporations and foundations, as well as the cultivation of taxpayers and legislators. These methods include the stimulation of bequests, the planning of special interpretive public relations efforts which attract public attention, the telling of a story in a colorful manner.

All of these methods of adequate total public relations or salesmanship programs should include once in every five or ten years an intensive campaign for a non-recurring capital need. This campaign should be organized on the basis of personal salesmanship of volunteer workers under skilled professional direction.

A college or university would do well, in my opinion, to have an all out total fund raising program which would include the following phases:

"A long-term program to utilize all resources and sound methods."

"Continuous cultivation of all 'publics,'—alumni, parents, local citizens, church constituency, taxpayers, corporations, foundations, etc., etc."

"Special interpretive and news making events."

"Personal cultivation and solicitation of selected individuals, foundations and corporations."

Annual Alumni Fund

Stimulation of Bequests

Corporation Liaison

Grants for Research and Special Projects

"An intensive campaign once in 7-10 years for a non-recurring capital need (Professionally directed.)

Our colleges and universities are among the oldest institutions of the western world. They and certain of Europe's great churches and cathedrals are far older and more enduring than any government now extant. Bologna, Oxford, Paris, Cambridge Universities in Europe and England, are among the most stable institutions yet created from the mind and spirit of man.

In America we have colleges and universities that are older than our own republic. They have had crises and emergencies all the long years of their lives, and they will continue to have them for as many centuries as they will endure, but always these problems have been minor in relation to their strength and their power.

It is true the colleges and universities of today have problems, but they are not problem children by any means, and they are our most sturdy and enduring institutions, and they are rendering service of which all Americans are proud. Certainly today's college and university administrators will find that they have the ability, the strength and the genius, to solve the passing problems of financial support and surely these great service institutions will grow in strength and will measure up to the new demands which our complicated modern society is placing upon them, and the new service which the very life of our republic depends upon them to render.

Prewar Liberal Arts Education

The best general education yet conceived is the liberal arts education of our prewar colleges, and that the sooner we return to it the better. The more generally we can make the best type of education prevail the better, but our first consideration in education is quality rather than quantity. Improvements in our system are imperative if we are to progress, but it is yet to be demonstrated that the postwar attempt to dispose of vast fields of knowledge with superficial generalities is an improvement. (Richards, Irving T.: Bull. A. Am. Colls., 36:386, 1950.)

British Medicine in a Nationalized State*

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Cincinnati, Ohio

I

Since August 1, 1949, I have spent more than ten weeks in Great Britain learning all I could learn concerning the state of British medicine. Last summer my visit was only quasi-official and I went thru the schools and hospitals usually by the "back-door." My friends passed me on to their friends and only occasionally did my conference take on an official cast. This winter I returned officially as a member of the American Medical Association Commission sent to study British medical education under the influence of "socialized medicine." What I learned last summer was only confirmed by my opportunity to continue the lesson with more intense concentration this winter. I will try to distill the essence of a very complex experience into a few pages for the purpose of this essay. My discussion will include more than our primary area of interest, medical education, since education of a professional nature can be evaluated only against the background of practice.

In the preceding paragraph I have put the words socialized medicine into quotation marks. The term socialized medicine has so many implications that it is necessary to define the current British variation on the theme more concisely. Whatever socialism may be in theory the British experiment has gone far enough so that a clear pattern emerges and that is the pattern of an increasingly comprehensive statism in which British medical practice occupies an important place. British medicine is today nationalized medicine operating in a collectivist state.

Though it is my primary obligation to be concerned with British medical education and practice under prevailing circumstances, it is quite impossible to divorce the problems of medicine from the matrix of the basic society in which they have developed. Any attempt to understand the situation in which British Medicine finds itself today without paying some attention to economic and social development of the relatively recent past would be quite futile.

First, the real significance of the relationship of total area to population must be clearly comprehended. We in the United States speak rather patronizingly of the "tight little Isle" but many of us who are fairly familiar with the cities and countryside of Britain fail to understand the exceedingly grave significance of this trite phrase. Before we accept the argument that what can be made to work, or indeed what might actually be necessary for Britain

*An address delivered to the alumni of the University of Cincinnati on the occasion of Founders Day, April 28, 1950. (Publication requested by the Editor.)

under present circumstances, could be made to work here or might offer a profitable example for the United States to follow, we would be wise to consider a few facts relating to geography, vital statistics and economics.

Great Britain has a total expanse of 94,000 square miles—an area only slightly larger than the state of Minnesota—and its population totals in excess of 50,000,000. However, it must be emphasized that Scotland and Wales, largely mountain wasteland, occupy together 39,000 square miles and support a population of only 8,000,000. Therefore England alone, an area of 51,000 square miles (Illinois has 56,400 square miles) must support over 42,000,000 persons. The maintenance of this large population in so small an area was possible only through intense concentration in industrial cities which brought wealth to buy the necessities of life from other nations by functioning as the factory of a great empire and of a large part of the world beyond that empire.

Today, unfortunately for Britain, the population remains and grows, while the market has shrunk to a shadow of its former greatness, and two World Wars have ravished the island. In order to meet an extreme emergency, the British people with considerable fortitude, have resorted to extreme means. Nationalization, and what is called the Welfare State in Britain, cannot and should not be regarded as an expression of evolutionary social and economic advance to be widely emulated by more fortunate nations. It is rather more comprehensible when considered as a policy of desperation, revolutionary in nature and devised to forestall economic and social disaster.

The National Health Service Act of 1948 cannot be considered apart from the centralization of government power now invested in the several ministries which have expanded along with the Ministry of Health. It cannot be considered apart from the necessity strictly to control the distribution of the food supply by the machinery of continued rationing—apart from the necessity strictly to ration clothing and petrol—apart from the centralization of power in the goverment control of the banks, of the railroads, the mines, the public utilities, and the extending control over industry. These things are all interdependent parts of a whole and the pattern grows peripherally as the machinery functions.

It is not my business to attempt to evaluate the effectiveness of Britain's social and economic revolution. It is mentioned only to bring out the point that the National Health Service Act cannot be considered apart from the general pattern of national affairs which produced it. For the fortitude of the British people in their attempt to solve their grave problems, I have the most sincere admiration. One can only feel humble in contemplation of a magnificent effort and earnestly hope that for Britain, the path they have taken will lead to an improved national economy. I would, in passing, say a word in refutation of an opinion frequently heard in America to the effect that socialized medicine is the result of the machinations of a mischievous labor

government for this is not true. It is generally conceded by all political parties that at the end of World War II only the British government controlled the money necessary for the maintenance and operation of the nation's hospitals, only the State could supply the money necessary for the support of the medical schools, and for the prosecution of medical research, and only the State could provide medical care for at least two-thirds of the population. It is against this rather stark background that we must test the validity of the arguments voiced by many who occupy positions of high authority in the United States, arguments which contend that Britain's necessity should become America's virtue and by an equally revolutionary procedure.

II

One cannot hope to understand the influence of social legislation on medical education in Great Britain without going back to the beginning of such legislation. It has its origin in the National Insurance Act of 1911. Out of this Act grew the system of panel practice, a limited form of socialized medicine, which became effective in 1913. We have not the time to argue the virtues and the defects of the panel practice, but we must try to assess its influence on medical education. At the onset there might appear to be no relationship whatever between the two and there is little evidence that there was any impact at the level of undergraduate medical education. However, by the mid-thirties, after some twenty-five years of operation, the informed visitor from the United States could not have remained unaware of the influence of panel practice on postgraduate medical training at the hospital level.

In America, by 1935, the development of an integrated system of hospital internships and residencies approximated its present level. For more than 20 years practically every graduate of an American medical school had voluntarily acquired a year of hospital experience and by the late thirties more than 75 per cent of our medical graduates were completing two years or more of hospital training before entering into the practice of their profession. The British pattern differed radically.

In the summer of 1935, and again in 1936, I spent several months in England and Scotland and learned much about the "panel" system as it worked after twenty-five years of experience. Among other things I learned, to my surprise, that less than 40 per cent of the graduates in medicine acquired any postgraduate hospital training whatever. No not even an intership! The majority of students went directly from medical school to panel practice. Conversations with medical students and younger practitioners at that time made it apparent that the immediate security insured by panel practice dampened the ambition which would lead one to undergo the long and expensive training necessary if one was to qualify as a specialist. Furthermore, the opportunities for advanced clinical training in the registrarships, which are analogous to our residencies, were limited. The British registrarships were designed only to produce highly trained specialists. An integrated program of post-

graduate hospital training erected on the broad base of universal internship was unknown at that time in Britain (and still does not exist today). The registrar had to support himself, received only a token stipend and the jobs were most difficult to find.

These factors deterred most students from seeking a type of hospital training which was designed to produce a highly specialized consultant and had little concern with the more fundamental problems of improving the quality of general practice.

As early as 1936, it seemed clear that panel practice had the effect of stultifying the general physician, leading from an initial security to an overemphasis on quantity of practice rather than on quality of professional competence. As was inevitable, a schism developed in the profession. Two groups appeared; the general practitioner, who had little or no postgraduate hospital experience, and the specialist who had a very long and expensive hospital experience. This powerful specialist corps (less than one third of the doctors) pre-empted most of the advantages and privileges which stimulate continued self education and growth on the part of the individual doctor. Only by analogy to a rigid caste system can one make clear to the layman the great difference which came to exist in Britain between the specialist-consultant and the general physician. A comparable distinction simply does not exist between the two groups in America.

Medical education at the graduate level adjusted itself to this pattern and the teaching hospitals devoted their postgraduate training almost entirely to some 20 per cent of their graduates who were destined to become specialists. Little interest was shown in the young physician who was to enter the field of general practice. He could always take care of a panel. Internship for such men was the exception, not the rule, and several years of hospital training planned to give a broad background for general practice was almost non-existent. The marked distinction between the general practitioner and the specialist was accentuated by the fact that the general man was gradually excluded from the staff positions in the better hospitals and was forced to send his patients to cottage hospitals if, indeed, he was fortunate enough to have entré to these local institutions.

So would I summarize the state of affairs before 1939, after 30 years of panel practice.

III

The National Health Service Act of 1948 exaggerated and formalized this situation. Under the present system of nationalized medicine, the state owns all the hospitals; it owns the ancillary facilities so essential to medical practice, the x-ray laboratories, the clinical laboratories and the institutes of pathology. The state now has on its payroll 97 per cent of all the physicians, hiring three-fourths of the profession as panel doctors, working under the most unprofessional terms conceivable, a capitation system, while one-fourth are employed

by the state to fill the hospital posts as consultant-specialists. Those who are fortunate enough to receive these hospital positions are dignified by being paid for the time given in service to the institutions rather than on the basis of a head count.

The general practitioner now has no hospital privileges, he has no direct access to the modern facilities for laboratory diagnosis. There is little to stimulate him toward continued professional growth because there is no outlet for expanded abilities. His life as a doctor is one of limitation and frustration bound up in the exigencies of governmental red tape. The only incentive left is the urge to add more names to his list so that he will receive more income from his capitation fees. There is *no reward for improving the quality of his work, only one for increasing the quantity.*

Meanwhile the specialist occupies an increasingly favored position under the Act. His are the hospital staff positions and a secured salary from the state based on time served in the hospital rather than on the number of patients seen. He has the opportunities and the facilities to practice excellent medicine and he may even spend some of his time conducting a private practice since the specialist does whatever private work remains in Britain. The result was inevitable; every medical student wants to specialize and so does every recently graduated physician. A Nationalized State has provided adequate salaries for registrars and the number of registrars has increased more than threefold. So we approach the sublime; or is it the ridiculous? Every physician a specialist and the state pays the bill. No more grubbing along in general practice!

As a matter of hard fact, things will not work out that way. In a planned economy the state decides how many specialists there will be, how many it can afford to pay. It is obvious that registrar training at the present rate will soon saturate the need for consultants and result in a huge surplus after all consultant positions authorized by the State are filled. Indeed, this point already has been reached in general medicine and general surgery. It is said that more than 300 physicians have completed their specialist training in these fields and now are unable to secure hospital appointments as consultants and there is no other outlet for their services.

The Chairman of one Regional Board told our Commission of 8 vacancies for consultants in his Region for which there were 122 qualified applicants. Another Regional Hospital Board had one vacancy and had received 34 applications. However, certain specialty fields, notably psychiatry, neurology, laryngology, plastic surgery and neurosurgery, are short of qualified consultants and such positions in Regional Hospitals may not be filled for several years. Recently a study has been made in Scotland of its consultant needs and of the number of present registrar trainees. This actuarial study indicates that during the next ten years 169 consultants in all specialty fields will be needed to fill the positions the State has recognized, but at the present time there are more than twice this number in training.

Plans for the future include the construction of new hospitals and when these have been completed additional consultants will be authorized to staff them. It must be remembered, however, that building material is still exceedingly scarce and that there is a huge backlog of industrial and housing construction needs, and, finally, that requests for any new construction must be approved by a central governmental board and priority as to need established,—so that there is every indication that any major program for new hospital construction lies rather far in the future.

Meanwhile, due in large measure to the abuse which the system invites, outpatient and inpatient hospital work has increased vastly. Hospital beds are everywhere very scarce since far too many of them are occupied by chronically ill dependents who have been unloaded by their encumbered relatives in the naive belief that the state, which promised free hospitalization to all, actually controlled the facilities to fulfill such a promise. Waiting lists for admission to all hospitals now number in the hundreds. At one famous university hospital of 600 beds we were told that the waiting list for admission on the general surgical service alone, now exceeds 1,200 patients. The general practitioner must, of necessity, contribute to this excessive demand for hospital accommodations, both inpatient and dispensary. Denied the facilities necessary to modern practice, he must refer all but the most obvious problems to the hospital consultants for diagnostic study.

So we see that nationalized medicine has magnified a problem in Great Britain that was already clearly apparent before World War II and was in large measure the result of basic defects in the old panel system. To put real professional responsibility and opportunity back into the field of general practice under the National Health Service Act and to redirect the abnormal interest in specialization! That is the problem. Its seriousness is recognized throughout the profession. Ranking officials in the Ministry of Health, medical educators, general physicians and even the specialists are all concerned over the present situation. A representative committee of the British Medical Association, headed by such distinguished and competent men as Sir Henry Cohen and Sir Alexander Biggam, is now studying the problem presented by the plight of general practice. One hopes a satisfactory solution will be found and found very soon, but the inflexible nature of the "Act" will make the search quite difficult.

IV

Medical Education was to be my primary concern and I have said nothing about the medical schools. Thus far I have been considering the problems of graduate training and practice as they interrelate, problems which are clearly defined and of immediate importance. It is not so easy to assess the impact of the National Health Service Act on the medical schools and their teaching hospitals. Indeed, if, for the moment, one may forget the teaching hospitals and direct attention to the basic science departments and to preclinical teach-

ing, one may say with reasonable certainty that the nationalization of medicine has been without detrimental consequences and that, at this level, medical education is in a stronger position than in 1935. The schools have more money for teachers' salaries, they have more money for scientific equipment and they have more money for the support of research. Furthermore, since large sums of public money have been made available as scholarships the medical schools now draw their student bodies from a more representative cross section of the nation's youth.

These very significant improvements are not the result of socialized medicine but they stem from institutions which anticipated the National Health Service Act by years. I refer to the work of the Goodenough Committee and of the University Grants Committee and its handmaiden, the Medical Research Council.

The Inter-Departmental Committee on Medical Education under the chairmanship of Sir William Goodenough was appointed in March, 1942, "to inquire into the organization of medical schools, particularly in regard to facilities for clinical teaching and research." The report of that Committee has proved to be an event of great importance in the history of medical education in Great Britain. In brief, this report was nothing less than the blue print for a renaissance in medical education and it followed a pattern closely resembling the developments which had taken place in American medical education during the antecedent twenty years. I have no time for a detailed résumé of that report, but I can assure you that it gave a very respectable support to the opinion, held by many competent critics of British clinical training, that it had fallen far behind the American achievement.

High on the list of the Committee's findings was the urgent need for much larger financial support from public funds for both undergraduate and postgraduate medical education. It was estimated that the amount of money needed as recurring grants from tax sources by 1951-1952 would be at least five times what it had been in the last year before the recent war, or approximately $15,000,000. The government accepted the principle of increased grants for medical education and agreed that these additional resources to be provided from the funds of the Chancellor of the Exchequer should be distributed as grants through the machinery of the University Grants Committee, which, in accordance with its established custom, should deal directly with the authorities of the various universities. That was the Act of a Tory Government and since that time a socialist government has come into power and medicine has been nationalized, but the procedure outlined for the distribution of large grants of public money to the medical schools is meticulously observed.

The University Grants Committee has been so very helpful to medical education in Britain that I must tell you something about it. I would at once express my unqualified admiration for the way in which this important institution has met its opportunities and its obligations for more than 30 years.

The Committee was appointed in 1919 with these simple Terms of Reference:

"To inquire into the financial needs of university education in the United Kingdom and to advise the Government as to the application of any grants that may be made by Parliament toward meeting them."

At the end of World War I, the universities of the United Kingdom found themselves in much the same predicament as that in which the universities of the United States struggle today. There was not sufficient money available from traditional sources to carry forward the operation of universities in general and of medical schools and medical research in particular. It was decided that state help must be forthcoming, but before government financial assistance to the universities began, the machinery which should provide a channel through which large sums of money might pass from Parliament to the universities without the possibility of political interference or political pressures had to be set up. For 30 years the University Grants Committee has discharged this difficult duty in a manner which has been universally approved.

The roster of the Committee membership since its origin has been a panel of distinguished names. Appointment to membership has been accepted as a high honor carrying a heavy responsibility. The responsibility has fallen on men and women quite equal to the task. This is not an occasion for a review of distinguished careers but some conception of the stability of the Committee may be gained from the statement that only recently two of the original members, appointed in 1919, have retired.

Recommendations for grants to universities are made on a five year basis and it has been the policy of the Committee to recommend block grants, leaving the details of expenditure in the hands of local university authorities. At the end of thirty years, the achievements of this Committee, which serves as a buffer between the politicians and the universities, has been so satisfactory, that, even in the face of a National Health Service Act, medical education and medical research are not now functions of the State, though the State provides the greater part of their financial support.

Supplementing and enhancing the work of the University Grants Committee in Britain stands the Medical Research Council which also has a long and distinguished history. This Council derived its powers and its funds from the Privy Council of the House of Lords and is, therefore, free from the dangers inherent in organizations which are directly subject to political pressures. Its primary purpose is the support and development of medical research, but it is free to interpret research in its broadest meaning. The Council has the authority to approve long term research programs and has facilitated long term projects by the reasonable policy of minimizing administrative details. Its membership, like that of the University Grants Committee, is composed of highly qualified persons and it exercises the power invested in it in an effective and competent manner.

On all sides we heard only the highest praise for the work of these two

institutions. Repeatedly we were told that without their unquestioned authority during the recent socialization of medicine, the National Health Service Act would have had serious consequences in the fields of medical education and research. Expressions of such opinions came not alone from the medical educators, but also came with equal frankness from persons of high rank in the Ministry of Health. When we have asked these same experienced persons for their opinions concerning certain legislation now pending in the Congress of the United States, which would provide financial assistance to medical schools directly from an agency of government without channeling funds through an institution comparable to the University Grants Committee, they have replied that, in their opinion, such a procedure would prove to be disastrous.

The improved position of the medical schools which is the result of a most praiseworthy attempt to carry out many of the recommendations of the Goodenough Report, employing state funds under the wise and experienced direction of the University Grants Committee is indeed the bright spot in British medicine. It represents a curious anachronism—an aristocratic survival in a socialist society acting as a safety check.

V

However, the financial support and security of the medical school meets only one-half the problem in the area of medical education. The support and freedom of the teaching hospitals is of equally great importance. The state now owns these hospitals and it is my opinion that they are in an extremely dubious position as teaching units.

Under the new Act, the control and ownership of all hospitals in England and Wales passed to the Minister of Health, and to the Secretary of State for Scotland. By statute, the Minister of Health must provide hospital and specialist services for the nation. This responsibility is discharged chiefly through the intermediate authority of 14 voluntary Regional Hospital Boards appointed by the Minister. In England, the university hospitals are responsible to their own governing boards, also appointed by the Minister of Health. In Scotland, the university hospitals are controlled by the regional boards. It is generally acknowledged that as presently constituted, university opinion is fairly represented on these Boards, and that currently the university's position in relation to affairs in its teaching hospital is no weaker than it was before the Act became effective. That this may not continue to be the case is the cause for grave concern in the university faculties of medicine.

Frequently, one hears the story of the added burden of detail and official redtape which the machinery of bureaucracy places on these voluntary boards. Vacancies appear with increasing frequency as frustration increases and the pressure imposed by the central grovernment will unquestionably become more severe as the tremendous financial burden involved in the operation of the "Act" becomes more clearly defined. In certain regions it is becoming difficult to fill vacancies on the Boards with men and women of the same

calibre as their predecessors. It is quite possible that even in Britain the essential quality of *noblesse oblige* will fade before the wearing pressure of statism. Should the understanding, the wisdom and the fearlessness embodied in the governing boards of the teaching hospitals deteriorate, should politically minded persons replace the present membership, then the truly vulnerable position of such hospitals will become apparent. It must be remembered that the statutory authority for the operation of all hospitals is vested in the Minister of Health.

The potential danger has been stated clearly during the past summer by Mr. L. Farrer-Brown, Secretary of the Nuffield Foundation. Participating in a symposium on medical education, he pointed out "that the Act itself states that the hospital shall provide for the university with which it is associated such facilities as *'appear to the Minister* to be required,' not, be it noted, as appear to the university or even to the Board of Governors (of the hospital), but as appear to the Minister, who is the head of a government department whose essential duties are not educational. . . . Those concerned with medical education would no doubt like to know how the Minister proposes to inform himself of the nature and extent of the facilities that are required. This seems to be a matter on which watchfulness may prevent the growth of handicaps that no one desires."

"Watchfulness," the cumbersome chore of constant awareness in a bureaucratic system for which professors are untrained, has become the bane of existence within the faculties of medical schools. On every hand, we heard the same complaint—committees have grown and pyramided to an unbelievable extent and threaten to consume most of the time and energy of the whole time faculties and that of many of the part time department members. Committee work in the medical schools of Britain has grown to an absurd degree and it cannot be neglected or reduced, because committees form the essential machinery of bureaucracies and only through participation and constant watchfulness may the universities hope to preserve any reasonable balance between their functions as educational and research institutions and their growing responsibility for service to the Minister of Health.

Already the Minister has made his position in this respect quite clear, for he has told the Boards of Governors that a teaching hospital's primary function is to care for the sick, and so far all must agree, but he continues by instructing the governors that in fulfilling their responsibilities to provide the clinical teaching they must not allow the hospital's primary function to suffer. And he alone has the ultimate authority in this difficult decision, which must strike a balance between the increasingly greater service responsibilities in wards and outpatient departments and what the universities, even in defiance of the Minister, must regard as their primary function, namely, teaching at the graduate and undergraduate levels and research.

As Mr. Farrer-Brown indicated: "The introduction of Ministerial power of deciding the facilities to be provided, together with the fact that clinical teaching facilities will be paid for by Boards of Governors from monies they

receive direct from the Ministry of Health for running the hospitals, may lessen the authority which the Goodenough Committee clearly wished the university medical schools to be able to exercise in the teaching hospitals." To prevent this from happening seemed to occupy an inordinate amount of the time of men who had been trained and selected to do something quite different.

VI

And what do the thoughtful, intelligent members of the British medical profession think about this system under which they must work? It is a difficult question for an outsider to attempt to answer and I should consider it an impertinence to speak for them were it not that certain attitudes are quite evident.

In the first place, they understand rather clearly the social and economic matrix out of which the present politic pattern developed. They know that socialization, with its ever spreading nationalization of the peoples' efforts, is basically a response to a very grave economic emergency. They waste little time defining the National Health Service Act as a great achievement in social advancement but instead most of the physicians recognize it as part of a rather desperate effort to avert social and economic catastrophe. Because they understand this, the large majority of the medical profession are trying to make the system work even though frustration and disillusionment may be their personal lot. And it is working today, neither because the program was wisely conceived nor effectively executed, but because doctors are doctors and take care of the sick regardless of circumstances when the cards are down.

There is almost universal agreement among physicians that the hospitals under existing economic conditions must be subsidized by the state. But there is much anxiety expressed because the government has taken over complete ownership as its method of providing subsidy. There is agreement that the medical schools must have greatly increased support from public monies and that this tax support has been wisely administered. There is universal disagreement with the revolutionary method by which the "Act" was put into operation. It is remembered that the Beveridge Plan allowed from 5 to 10 years to accomplish by gradual stages what was done at midnight on a certain date as an act of power. Finally, there is little sympathy for that part of the "Act" which places the whole medical profession on the payroll of the government and has led to the deterioration of general practice. This, they believe, was not necessary.

The key work in the British physician's consideration of the National Health Service Act is necessity—but again I say, there are too many in our country who would try to translate a British necessity into an American virtue!

Finally, I must answer the question which my friends invariably bring out as the argument designed to annihilate any unfavorable criticism of British medicine. "Is it not true," they say, "that more people are receiving medical

care than ever before?" Let me substitute the words medical attention for medical care and the answer is an unequivocal—yes! But if you are interested in medical *care,* the intelligent early diagnosis of disease and its adequate management as we understand it in the United States, the answer is just as emphatically—no!

A type of medical attention in which unbelievable abuse of the doctor and the hospital are inextricably mixed with real medical need is producing a technique of medical practice which must lead to professional disintegration. That is the result of nationalized medicine as I see it in Britain today. But my friends reply that they realize that Britain has gone too far, certainly there are many good things in the program and they wish to carry over only the good things and incorporate them into American medicine. When these well meaning people talk in this manner, they astonish and frighten me much more than they would if they frankly advocated nationalized medicine with all its trimmings. Obviously, they do not understand the fundamental nature of socialism in either theory or practice. The idea of a self limiting or temporary collectivism is really too absurd for serious discussion. It is opposed by the historical record of every attempt at limited collectivism by a major nation. It is opposed by all that is going on in England under our eyes; it is contrary to the essential nature of statism.

May I quote from the wisdom of Mr. Dooley, "when one can fall out of a twenty story window and stop comfortably, at the tenth story,"—then I will seriously consider the possibility of a self limited collectivism.

Much remains to be done in this country of ours to improve the quality of medical care in certain areas and to work out a more equitable distribution of doctors, and let us not forget, of hospital facilities. I do not believe that the English experiment with nationalized medicine offers evidence that such a program will provide the answer to our problems. Fortunately, economic pressures have not forced us into Britain's dilemma. We have the time and we have the intelligence to solve our problems by evolutionary methods and thus avoid the inevitable centralization of power masked under the pleasant sounding name of the Welfare State.

Integration of Clinical and Social Factors in Illness

Observations from Veterans Administration Residency Training

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In November, 1945, the Veterans Administration inaugurated a Residency Training program, the objectives of which are teaching of resident physicians at a postgraduate level, including research; stimulating the staff members by the teaching associations; and, providing continuously improving medical care for the veteran, all predicated on the well established principle that an educational program has a positive and enriching influence on the quality of professional service.

The relationship of Veterans Administration teaching hospitals to medical schools is through the Deans Committees,[1] chosen by the Chief Medical Director to establish and assume responsibility for training programs in designated Veterans Administration hospitals, and composed of individuals selected by the Chief Medical Director as being qualified to establish and supervise medical and dental residency. The Deans Committees review applications for Veterans Administration residencies and recommend applicants to the Manager.

As defined by the Veterans Administration, a residency is a graduate training for physicians and/or dentists on a student basis over and beyond that period of training designated as "internship," primarily directed to enable physicians or dentists to further their training in accordance with the standards of the respective specialties. They are appointed on a one year basis and may be reappointed annually until the requirements of formal training necessary to qualify for a specialty of their choice is completed. Appointments are made in one of three grades, junior residents, intermediate residents and senior residents. Five years is the limit any resident may remain in a Veterans Administration residency.

One of the purposes of the residency training is to introduce the resident to the responsible care and treatment of patients, the degree of personal responsibility allowed him being increased as he becomes more experienced. For some time the Department of Medicine and Surgery has been considering how best to incorporate into the residency training program greater awareness of the significance which social and environmental factors have in relation to a patient's illness and restoration to health.* It is believed that the physician's ability to recognize social factors and to set in motion appropriate action in relation to them, is an essential skill which every resident needs to develop during his training. This is a skill he will need to carry into his future hospital, clinic or private practice, whatever his specialty.

1. Veterans Administration Technical Bulletin, TB10A-201, September 1, 1949, Washington, D. C.

*For case examples, see Appendix. Case examples in this paper are drawn from several hospitals, including the VA hospitals visited.

This paper is a report of a project undertaken* because of the recognition by the Veterans Administration of the need for the medical profession to supplement current medical education, by placing more emphasis on the doctor's understanding and care of the patient, rather than on the disease alone. It also represents a search for a method whereby doctors may, during a period of postgraduate training, have the opportunity to learn how to gain such understanding, and how to utilize it effectively in behalf of the patient. A similar concern had stimulated the Association of American Medical Colleges to undertake a study jointly with the American Association of Medical Social Workers in 1943 on the undergraduate teaching of social and environmental factors in medicine. Its report [2] contains the following statement:

"Man is a biological and social being, and medicine is a natural and social science. The three major features of illness are the physical, emotional and social. They must be dealt with together. The teaching of the social and environmental factors in medicine should begin during the preclinical years when the student is introduced to the subject as a basic science. Application of his knowledge is deferred to the clinical years when he can use it in dealing directly with patients. The student must learn to recognize the social and environmental factors in every case. He must develop certain attitudes that will help him to establish effective and wholesome relationships with the patient and his family, and with his own colleagues. He should be taught certain skills, such as the utilization of the physician-patient relationship, interviewing, teamwork, the use of consultants, and community resources, and skill in recording."

While this joint study indicates that the teaching of social and environmental aspects of illness and medical care has been carried on in varying degrees in a number of medical schools, many graduate physicians have lacked the opportunity for such instruction in their undergraduate study.

Visits to several hospitals were made for the purpose of exploring the feasibility of introducing into the residency training hospitals a systematic plan of teaching, similar to the program of intern training organized and maintained for twenty consecutive years (1929-1949) at Boston Beth Israel Hospital.[3] In order to assess the applicability to the residency training program of this training method evolved for interns, there will follow in some detail a description of some of the concepts on which this plan was based and of the process by which these concepts were applied in practice.

Intern Training at Beth Israel Hospital

The procedure was called medical social ward rounds. During the six months period as senior intern in this hospital, the intern studied and treated approximately 300 patients. By a systematic review of every patient in the ward, according to the method to be described, he learned the interrelationships

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* October 1949—March 1950.

2. Widening Horizons in Medical Education. New York, The Commonwealth Fund, 1948, pp. 16, 17. Report of the Joint Committee of the Association of American Medical Colleges and The American Association of Medical Social Workers.

3. Period during which this author, as Director of Social Service, was actively associated with this program. Ethel Cohen and Harry A. Derow, "The Training of Interns in the Social Aspects of Illness." J.A.M.A. 117: (Nov. 22) 1941.

between the patient's illness, personality, social environment and responses to medical therapy.

Once a week, at a regularly appointed time, medical social ward rounds took place, attended by the senior intern, the resident, a visiting staff physician and the medical social worker. Through their direct active participation, interns and residents learned that the practice of medicine was for the care of sick people and not only for the diagnosis and treatment of disease; that conditions of daily living contribute to the causes and recurrence of illness, and retard recovery; that illness and its consequences disturb and contribute to the breakdown of normal existence; that physicians have a responsible role in the total rehabilitation of their patients; and, therefore, consideration of social factors is necessarily part of the process of diagnosis and treatment.

The most distinctive features of the rounds, which took place on the wards out of range of the patients' hearing were:

1—It was a systematic regularly scheduled approach to the individualization of each patient. The intern participated actively by securing social data about every patient for whom he was clinically responsible. For this, he was held responsible by his clinical superiors.

2—The intern had to present the social as well as the medical data on each patient before his senior medical officers and the social worker, and discuss the relevance of these data to the patient's illness.

3—From both senior medical officers and the social worker, he was helped to recognize social factors influencing each patient's illness; to evaluate these factors; to deal with some of them appropriately himself; and to learn how the community was organized to meet or had failed to meet the significant interrelated social and medical needs. He was helped to appreciate that social factors in an illness merit as scientific an approach as do technical medical data. Ungrounded assumptions, hasty inferences and broad generalizations are no more valid when drawn from social observations or information than from clinical data.

4—From joint discussion of doctors and medical social worker, certain of the patients presented were selected for the social worker's study and help.

Before 1945, medical social ward rounds on the medical service included only the senior intern, the resident and the medical social worker. Since that time, however, a visiting physician, also a member of the teaching faculty, became a member of the group. At the beginning of the academic year, when the whole year's teaching schedule was set up, members of the visiting clinical staff were assigned by the Physician-in-Chief, each for a period of one month. Great values were derived by all on rounds from the seasoned medical and social judgment of the more mature and experienced visiting physicians. The time taken by these teachers out of their heavy programs of work was impressive evidence to the interns of the significance of the rounds. Many of the teachers believed that this procedure provided a unique opportunity for penetrating more deeply into the younger physicians' clinical thinking, even while all tried

conscientiously to hold the focus of discussion specifically to the interrelated social and clinical factors.

The social data presented on rounds by the senior intern, which he had previously learned from the patient, included facts about the home conditions, i.e., the physical setup of the home and the type of neighborhood; his occupation and the particular activities involved in the specific job; economic stability and the effect of his illness on his employment and dependent family; possible existence of emotional factors and conflicts within his home or work; his attitude and the family's attitude toward his illness. Because of the physician's responsibility for advice on post-hospital care, the intern was expected to evaluate whether the patient could understand and would follow instructions; whether he would be able to follow and provide for a special diet or appliance, if indicated, or would be able to carry the full burden of household activities and care of children. He had to bear in mind and discuss the possibilities of the need of adjustment of occupation or of school work. Along with these social data, the intern was expected to describe the medical aspects of the patient's illness, including a statement of the patient's physical and mental condition (not merely the diagnosis in the classification); the probable duration of hospitalization; the outlook for the immediate present and for the long range view; a statement relative to ability to resume usual activity or need for its limitation, at home, at work or at school, and recommendations as to the type of care that the patient would require following discharge from the hospital.

In the course of the discussion on rounds, it was decided that the intern would have further discussion with certain selected patients. For example, with some patients it might be for the securing of more pertinent social information, and with others for better understanding of his attitude about the illness, treatment or prognosis, if this seemed to be the problem. With certain others, it would be interpretation to the most responsible member of a family in the case of a progressive, severely disabling or fatal illness.

As the doctors discussed the details of the kind of care a patient needed, or the physical or emotional stresses and strains from which he should be protected, the social worker on the basis of her specialized training and experience evaluated, during the rounds as well as after social study, the type of social plan which would best meet these clinical needs. For example, instead of the intern deciding specifically that the patient should be sent to a nursing home, he would indicate that a given patient needed a prolonged period of rest and graduated activity. The social worker would then suggest the social plan which seemed most appropriate in view of the known social and emotional elements and their interaction with the medical. For the particular patient under consideration, his own home, even if not ideal, might have a more favorable influence on his convalescence than any other place. For another patient with a similar illness, his own home, even with every needed physical facility, might be the least desirable environment. The total planning presupposed the active participation of the patient, and the recognition by doctor and social

worker of the patient's own desires in the plan. At times, when the most appropriate plan and the patient's preference were not compatible, either because of the patient's complete rejection of the recommendation or more subtle resistance, this situation became a problem to be worked through by either doctor or social worker, or by both together, with the patient. In this way, each performed his specific separate as well as co-ordinated function in the hospital in assisting the patient. By this emphasis on the patient's participation, and his desires as an important component in the plan, treatment was found to be more effective, hospital readmissions reduced, and many potential hospital discharges against medical advice were averted.

Also, during these rounds, it was decided which of the patients presented problems which the medical social worker should take up for social casework study and service. Included in this group are the situations in which the social data initially secured by the intern revealed symptoms of medical social difficulty necessitating a trained social worker's approach and technique. These were different in essence and complexity from those it had been agreed would be undertaken by the intern himself. However, some of the intern's cases were now assumed by the medical social worker also, if his supplementary interviews with the patient had produced material with social implications with which physicians are not trained professionally to deal.

During the medical social ward rounds, the social worker also reported on the developments in the situations of patients still on the wards whose problems had been taken up on previous rounds. After all the patients had been discussed, the problems were jointly reviewed briefly for decision on priority of need for the social worker's help.

The Learning Process through Joint Thinking and Discussion between Intern, Resident, Visiting Physician and Social Worker

Initially, in the early experience of the intern with these rounds, he tended to disregard the social data he had secured as unimportant. Also, very frequently he attempted to prevent the discussion about a patient by the comment that "he has no social problem." This might have been due to his inability to evaluate his social data properly. However, he was encouraged to present in detail the data he had procured. Sometimes it was found that his assumption and his inferences had been drawn from insufficient information. However, when the intern's social information was adequate in amount, he might frequently have not understood its meaning for the particular patient discussed. Sometimes his judgment was invalid because of inexperience or lack of knowledge about housing, labor conditions, insurance, community organization, public welfare, etc. The difference in training and professional orientation of physician and social worker accounted often for the difference in the significance and importance which each attached to the same set of facts.

For example, a young man with severe asthma, living at a "good address" was considered to have an environment not adversely affecting his illness.

The social worker, however, at the very beginning of her interview with the patient, had learned that his mother was the janitor of the apartment house; that he shared his mother's basement tenement; that the room he slept in adjoined the soft coal burning furnace which he usually helped her attend.

To assist the intern to understand the individual patient better, she asked for more information with special application to a person of his age, marital status, occupation, responsibilities, etc. Also, the intern would be asked to elaborate on the medical data, so that the social worker would have better understanding of the total situation. Among these questions are, What kind of illness is this? Acute? Self limited? Progressive? Under what conditions may it become reactivated, if now apparently quiescent? Is the given illness likely to create a problem for this particular patient, which he might not be able to meet himself? Often an acute illness in one patient, in a particular setting, may not create any difficulty, but the same illness, or one even less acute, in another patient, with a different family and work situation, might appear an insuperable obstacle.

Discussions of this kind took place during rounds each week. Through them the intern gradually learned the need for individualizing each patient with reference to the social as well as medical factors. The social worker shared with him the knowledge she had acquired in her social study through interviews with family, social agencies or other relevant sources. This information might confirm his social history, or correct it, or add to it. The differences in the information each had, may be shown to arise from difference in the kind of relationship the patient had established with the physician or the social worker; or it might have resulted from the social worker's training in the skills of interviewing and/or other professional techniques. As the trained medical social worker, through experience, gains an appreciation of the prognosis and possible plan of treatment in certain illnesses, so does the intern, in the course of time, develop skill in gathering and evaluating social data and an awareness of the inherent relationship of potential social facts with certain medical diagnoses. This process, at first conscious and deliberate, with practice, becomes less conscious, more habitual and far less time consuming.

From the cumulative experience of learning to know each of his patients during the period of his senior internship, the intern became conditioned to this kind of thinking. This had become an integral part of his daily practice. The doctor-patient relationship was strengthened, and the care of the patient, both in the hospital and later in his private practice, was improved.

The product of medical social rounds is more than the sum of its parts; medical information, on the one hand, and social data, on the other; i.e., clinical diagnosis, treatment discussion and clinical progress, plus facts about the patient's environment, feelings, work, interpersonal relationships. An active process is going on of evaluation by workers from two professions—different in immediate purpose, content and method—of the possible meaning of one set of data as viewed in the light of the other, with the emphasis on under-

standing and accepting the patient as an individual with his own differences. The interaction of these two diverse medical and social elements creates a new and different health picture. One might say that in this process of evaluation and of deriving meaning from the combined data, a new dimension is produced, which makes the total situation something more than the sum of the two separate parts. This organized activity has a form and structure, its participants are in a dynamic relationship to each other. Not only their understanding and acceptance of each other's professional purpose, training and contribution, but the manner in which they relate to each other will determine largely the degree to which the medical and social components will be unified into a purposeful functioning whole.

GENERAL DISCUSSION: INTERRELATIONSHIP OF DOCTOR AND SOCIAL WORKER.

In any clinical setting, for the doctor to understand the social worker, he needs to know the aims of the profession of which she is a practitioner.

"Social work seeks two things for people: economic well-being and the deeper source of happiness that is self-realization. The stuff of its concern is human behavior and relationships. Its focus of attention is the individual and his self-adjustment to a recognized reality.[4]"

"Social service, a professional service to patients, physicians, hospital administration, and the community, has been developed in hospitals and clinics to help patients with environmental and personal difficulties related to their illness, recovery, and preservation of health. . . . Casework service to the individual patient is the primary and fundamental activity of the department. All other activities of the department depend upon sound, continuous social casework practice. . . . This service depends on individualized study of the patient so that his medical situation and its interrelationship with his personal needs and problems may be understood. Sharing of information between the doctor and the social worker is basic to their individual understanding of the patient.[5] . . ."

In order that the participation of the social worker in clinical medicine be truly effective, she must have broad understanding of the content, method and purpose of the doctor's training. She should have a working knowledge and understanding of the clinical organization of the hospital, including the duties, responsibilities, pressures, authority and attitudes of clinicians at the various levels of that organization. The social worker must appreciate that, with some exceptions, the education of doctors has largely been concentrated on the physical and scientific aspects of disease; and that the rapidly growing enormous fund of this knowledge has accelerated the trend toward specialization. The dangers of this tendency to narrow rather than to broaden the focus of the doctor's viewpoint are the constant concern of all medical educators. In common with the members of other professions, the doctor's social understanding

4. Washington University: George Warren Brown School of Social Work. Announcement 1948-1949. St. Louis, 1948, p. 12.

5. A Statement of Standards to be Met by Medical Social Service Departments in Hospitals and Clinics. American Association of Medical Social Workers, Washington, D. C. 1949.

and attitudes will be largely the product of his personal development, general education, life experiences, social, economic and political philosophy. For this reason, there will be present within any clinical staff considerable variation in scope and depth of concern for and understanding of the total patient.

Some physicians will give strong support to the social concepts of contemporary medicine. However, others will have social viewpoints which are diametrically opposite. Some men with a special interest in the highly scientific aspects of disease will not share the interest of many of their colleagues in the patient as a person. Some will reject the generally accepted theory of the influence of psychic and/or environmental factors on organic illness. Certain others, feeling the authority of the physician as being paramount, will make little allowance for the individual's complex emotional reactions and believe that the patient must accept the doctor's decision unquestioningly. On the other hand, many doctors have learned from their patients that fears, anxieties, superstitions, incorrect information and personal problems often enter into a desire to leave the hospital, contrary to medical advice, or into the failure to carry out the doctor's recommendations. Views will differ, too, on the question of community responsibility to help persons unable, for whatever reason, to maintain themselves independently. When these and other feelings or convictions are held firmly, they may, at times, present a problem to the social worker in her teamwork relationship with the doctor, in carrying out her own responsibilities to the patient, and to the agencies in the community with a social philosophy similar to her own. She will need to learn to identify the viewpoints that cannot be influenced by social interpretation, and then work with these viewpoints objectively and constructively in the patient's interest.

Social workers, like doctors, are the product of their personal development and environment, and differ greatly in understanding, attitude and capacity. However, the objective and content of their specialized education are centered on the application in practice of the social concepts and purposes on which their profession is based. In striving toward the attainment of this goal, the ideas and attitudes of many workers undergo considerable change through both professional education and experience. To function adequately as a social worker, she must have developed deep conviction about and personal identification with this social philosophy.

The social worker in a medical agency must from the outset have some knowledge of diseases, their effect on the patient and on his capacities to function normally. She should know the kind of physical and emotional pain involved in the illness. She must understand the discomfort inevitably inherent in certain diagnostic and treatment procedures. Her initial fund of such knowledge must be consistently extended to enable her to understand how the patient's social situation contributes to the development of his illness, affects its course and his response to treatment. This could profitably include the rapidly changing therapy of diseases previously fatal or extremely threatening to life. The measure of her contribution to the doctor's understanding of the social implications, reviewed patient by patient in a clinical service,

will be determined by her understanding of these patients' medical problems. In addition to reading, this knowledge can best be acquired by periodic attendance at medical teaching rounds and clinical meetings of the institution of which she is a part. By this means, also, she may become acquainted with the method of care officially adopted for illnesses with no single universally accepted treatment measures.

Potentialities for Developing Greater Medical Social Emphasis in Veterans Administration Residency Training

With these concepts as a background, I visited seven Veterans Administration hospitals ranging in size from about 300 to more than 1,000 beds, with residency training programs, associated with ten medical schools in five widely separated geographic areas. The duration of visits was approximately two weeks in each of six hospitals, and considerably less in one hospital.

The method of the study was through several devices: interviews with management and with a representative of each Deans' Committee, attendance at manager's meetings of all professional chiefs, multiple discussion with clinical chiefs, interviews with some consultants and attending men; social service chief and staff members; observation at various types of clinical rounds and meetings; readings of medical records; actual participation in several medical social rounds experimentally initiated by certain clinical chiefs and consultants as a result of the visit; participation at social service staff meetings and reading of social records.

The positive interest expressed by a preponderant number of clinicians desiring to promote their residents' greater appreciation of the social factors was impressive. Every assistance was given me to observe current practice by attendance at "business rounds," teaching rounds and special conferences. Invitations were extended to participate in discussion of selected patients either on rounds or in conferences arranged specifically for this purpose.

In two hospitals, beginning plans for some organized discussion had been made simultaneously with the initiation of this study project. In one of these, an assistant chief of medicine had already initiated a method of ward conferences two weeks preceding the visit. The clinical chief of the ward and several residents, the chief social worker and the social worker for the service participated. At the conference observed, the presentation and discussion of several new patients chosen by clinical chief and residents were preceded by social and medical progress reports on several patients brought up the previous week. Next steps in the care of an ambulatory patient, recovering from severe thrombophlebitis, were to be decided. A full and detailed review of this patient opened up new lines of thought and must have left a lasting impression on the residents, despite their original belief that no problem worth discussing existed. The clinical chief had been certain of the important learning possibilities in the case, particularly the relationship of the patient's employment to his disability. In order to reach his work as carpenter on a battleship under construction in the Navy Yard, he was

obliged to rise about 4 a.m., return home about 7 p.m., and drive his car approximately 30 miles twice daily. The negative effects of pressure on his legs from prolonged driving, constant standing, frequent ladder climbing, and, on the other hand, of being obliged to give up a satisfying lucrative job as master carpenter, were weighed carefully, with all the implications for this patient with his particular personality make-up. In the informal discussion, the clinical chief and the social worker explained what a great accomplishment it was to become a master carpenter; how difficult it would be for this patient to relinquish such employment, and how his union might assist him to find adequately compensated work more suitable to his physical condition and appropriate to his work status, and thus safeguard the clinical gains made, and avert the loss to everyone in this situation, which would occur if the patient, without sufficient medical interpretation and unaided, were to consider it imperative for him to resume his former work prematurely.

A letter from the manager of this hospital received several months following the visit is quoted here, in part: "After the program had been in operation approximately three months, an informal evaluation of what had been gained was made by the participating resident group and the medical social worker. It was interesting to note that the residents, as a group, expressed the fact that they were able to carry over the content of the rounds to their regular care of the patient. The discussion brought out the recognition that, in many instances, they recognized the broader implications and the interplay of social and emotional factors. . . . Although we still do not cover the entire patient group on any one ward during weekly rounds, we are now able, by a better focussed discussion, to cover many more cases and, in this way, the experience has been an enriching one for both the resident and the medical social worker."

In the second hospital, regularly scheduled weekly conferences by the assistants in charge of the tuberculosis ward and the medical social worker had already been initiated a few weeks before this visit was made. Here, in the course of the conference observed, the clinical assistants were considering constructive means to deal with the disturbing influence of a group of patients' wives, drawn to each other during excessively frequent hospital visits by their common problem and similar approach to life. They had seemed responsible for arousing in many patients acute discontent with the hospital's regime for tuberculosis care, contributing thereby to the number of patients terminating treatment by leaving against medical advice.

To recapitulate the elements at the core of this aspect of medical education: in order that patients may be understood and treated in their totality by their physicians, there is implied individualization of each patient. For individualization, the acquisition of adequate knowledge about each patient is necessary. The doctor's own participation in securing such data promotes his responsibility for the patient and better physician-patient relationship. The skills to apply these ideas in practice are developed by practice, with guidance

of clinical teachers and active help by experienced professionally trained social workers.

In Veterans Administration hospitals the residents come from a very diversified background of medical education and clinical experience. Many had been trained during wartime in an accelerated plan of education, going directly into service in the armed forces, and returning directly from this experience to the Veterans Administration hospital, to take up their first civilian responsibility for the care of sick people. Other residents had just completed an internship following postwar medical education. Still others had had several years of independent private practice in the community, and now desired the opportunity for preparation for specialty board examinations. Inasmuch as the number of years of training required by the specialty boards varies according to specialty, there exists the possibility that among the residents assigned to a given ward service, some will have had little or no experience in the community; while others, will have had considerable independent experience and responsibility. This latter group would, presumably, have greater appreciation of the influence of social problems in illness.

In any consideration of the feasibility of a procedure for systematically incorporating into Veterans Administration residents' training increased awareness of the significance of the social elements in illness—compared with its feasibility for interns,[3] several factors must be taken into account; the broader clinical and life experience of the residents; the diversity of medical education and training which residents bring to the Veterans Administration and the nature of their current assignments. While the observed practice of some residents indicated an existing appreciation of the concept, their skills for the effective utilization of such understanding appeared limited.

The staffing pattern of some community teaching hospitals (not VA) is composed of interns and third year or fourth year medical students, usually designated as clinical clerks—all with less experience and/or less education than residents. In the course of the internship, a student attitude still exists, especially in relation to responsibilities not previously carried for the care of patients and management of a ward service. Part of this responsibility ordinarily includes history taking and the initial "work-up" of cases.

Traditionally, in many hospitals this assignment goes to the least experienced members of the medical staff and is a function which some hospital doctors seem to prefer not to carry, once they had passed the internship period. In the Veterans Administration hospitals visited, there being no interns, the histories and "work-up" are done by residents, some of whom consider it too elementary a task and too diverting from their chief aim of gaining new knowledge and more advanced experience. The greater diversity in extent of medical education and clinical experience of the Veterans Administration residents further increases the complexities beyond those generally found in hospitals with a more uniformly trained and experienced staff of doctors in training.

In the medical-social rounds as described earlier, resistance was shown, at times, by interns to the social worker's contribution of social data or of a

social concept which would modify their judgment or planning. With experience, with observation of the demonstrated value of rounds, and, in the course of time, this resistance was lessened and usually disappeared gradually. As the change had come about gradually and unconsciously through the cumulative effect of the case-by-case discussion and planning, it was a quite common experience for the intern not to have been aware that his attitude had changed through his co-ordinated work with the social worker.

This attitude of resistance encountered in some interns may very probably be found to exist even to a greater degree with some residents, with their broader clinical knowledge and greater life experience. Certain residents may not consider it their responsibility to secure social information, or to be concerned about any but the strictly physical aspects of a patient's problem. Interest in the patient's personality and environment, they believe to be entirely the function of the social worker, an attitude possibly due to two main influences: a similar approach to the patient during earlier clinical experience; and the focus of their current activities. Some may feel that their minimal social data are adequate for their purpose. They may resist any plan for them to secure for themselves a more comprehensive social history and to participate in discussions, on a regularly scheduled basis, of the significance of the social history to the medical. The process of acquiring social data through their own efforts is a valuable learning experience; however, the policy providing for this experience is contrary to the more usual custom of social workers securing information for interns and residents. On some clinical services social workers are expected to review all patients socially and to give residents social data on some of the patients with problems needing social case work help. The measure of such sharing differs in amount from worker to worker. The degree to which doctors in training remember social information thus acquired, and then correlate it with clinical data, is, in general, not extensive, and, often, not adequate. The value of this more common policy of doctors getting social data from social workers instead of from patients, as a means of affording a habit forming learning experience for the residents is questioned.

The present programs of the residents are filled with lectures, conferences, meetings, study and presentation of papers, in addition to their otherwise heavy clinical responsibilities. These activities and the preparation for specialty board examinations create great feelings of pressure. Clinical chiefs will need to give encouragement to residents to spend considerably more time with the patients initially when getting a history, as well as later, in becoming better acquainted with them as individuals. The problem of the pressure of time cannot be emphasized too strongly as a problem of teaching hospitals. Active support from clinical chiefs, consultants and attending men will be necessary for a program as described earlier. Medical students, undergraduate and graduate, look to their teachers for professional guidance with great respect. If a teacher appreciates the value of any related activity, its development is greatly enhanced; and, conversely, if he depreciates it, the likelihood of its survival will be reduced greatly. Nothing can be so potentially destructive

to the execution of a program based on the ideas elaborated in this report as to have it minimized or discouraged by any member of the attending staff.

To contribute toward an affirmative change in residents' reactions, the participating social worker will need to be secure, mature and skilled in her own practice and in her ability to deal with certain negative attitudes. No amount of abstract and theoretical interpretation by social worker to clinicians carries a conviction comparable to her skillful demonstration, on a case-by-case basis, of social help to a patient which directly or indirectly influenced the medical problem.

Fewer attempts of patients to leave against medical advice, a diminished number of medically unnecessary readmissions, and reduced periods of hospitalization should, in time, make it evident to the residents that the longer time taken up by greater consideration of the patient as a whole will have been utilized profitably. When patients remain in the hospital as long as required —no more nor less—their health needs seen in totality, residents will have the satisfaction of fulfillment in their work, as well as the greater assurance of an optimal number of different patients for clinical learning opportunities.

In all the hospitals visited, many clinicians had real understanding of and deep concern for their patients' needs. Yet, the general intellectual acceptance of the concept of the social component in illness greatly exceeded the application of the principles in practice. This paradox seems to parallel a considerable degree of community practice, and re-affirms the well recognized need for medical education to provide learning opportunities during the medical students formative years. If at that time a habit to consider the total patient is developed concurrently with the establishment of other clinical habits, there will be far greater assurance of its persistence in all later phases of medical practice.

Implications for Social Service in VA Residency Training.

In the promotion and development of any organized program based on the concepts described earlier, the social service department plays an active role. To make an effective contribution to such a program, experience has demonstrated that the participating workers should have appropriate professional education and sound experience in a clinical setting. There should be clearly discernible in the total practice of the Social Service Department the reality of the social component in illness, and the benefits derived for medical treatment and care from attention to the related social needs.

From long experience with a regularly scheduled procedure in integrated medical and social services,[6] it has been learned that the use of such a procedure reveals large numbers of patients requiring medical social service help. These numbers seem to increase in direct ratio to the knowledge, skill and adaptability of the medical social worker and the social sensitivity and the developing interest of the intern. It is obvious that a sufficient number of workers of good professional quality is essential.

6. At Boston Beth Israel Hospital.

To participate in a procedure contributing to the residents' greater learning about the social component in illness, the social service program needs to be focussed sharply and purposefully on the social ingredients in medicine, illness and medical care. The practice of certain members of social service staffs visited during this study was directly focussed on the social problems related to the particular illness, either as contributory to illness, or as interfering with treatment or with after-care. And the methods of dealing with these problems were clearly apparent. There was special emphasis on sustaining the medical progress already made, on retarding progress of the illness, or on preventing recurrences. However, certain other individual social workers were functioning as they might in a nonmedical community agency, taking insufficient cognizance of the hospital's central purpose,—the promotion of health—, or of the social factors directly bearing on the nature of the patient's illness and disability; or of the multiple hospital-patient relationships and their influence on the patient. The tie between these workers and the medical environment of the hospital seemed, at times, incidental rather than direct and purposeful. This situation seems to have been true particularly of workers whose chief previous professional training and experience had been in generalized social settings, or in clinical settings not emphasizing the concept of true medical and social integration. A redirection of such practice will necessitate the acquisition of greater technical medical and social knowledge and, with considerable supervisory assistance, the development of additional skills.

Greater selectivity in intake of cases will necessarily be one of the natural consequences of a sharper program focus. But as an expedient to keep the total caseload of the department related to the current number of social caseworkers, limits will have to be consciously developed. With a more deliberate plan for selective intake, the social service staff rather than numerous members of other groups, lay and professional (as at present in certain hospitals) would determine its own intake policy for the most effective use of professional time. This would, of course, be developed with the concurrence of management. Other things being equal, a caseload more reasonable in quantity will have a positive influence on the quality of work—to the advantage of all involved.

In the VA hospitals visited, one of the most striking observations made was the disproportionately small size of the social service staff in relation to the numbers of patients under medical care. Moreover, a special characteristic of the VA, with a bearing on the activities of all the professional personnel, including the social workers, grows out of the legal responsibility imposed by the Congress on the Veterans Administration for the adjudication of Veterans' compensation and other benefits. Another feature that appears to make relationships within the VA hospital setting more complex than in many community teaching hospitals is the great interest actively displayed in the sick veteran by a considerable number of individuals and organizations in the community.

It is generally conceded that, to be convincing to management and clinicians,

good day-by-day case work practice in a teaching hospital must be demonstrated. Unless the VA social work staff can be increased in size, a change in its intake policy, aimed toward greater selectivity, will have to be planned with management and with clinicians whose active support for the policies agreed upon is essential.

HOSPITAL PLANS FOR EXPERIMENTATION IN LEARNING METHODS.

In all the VA hospitals visited, plans are being made for regularly scheduled conferences, the clinical chief himself (or his assistant) to participate with his residents and the chief social worker (or supervisor) with a member of her staff. With the social service staff insufficient to meet all the medical social casework needs brought to light by such conferences, it would not be feasible to extend weekly conferences on every ward of the hospital for the discussion of each patient. Therefore, limited coverage is being considered, one ward in medicine, and one ward in surgery (in all but one hospital), with the hope that the influence of the practice on these wards may reach into other parts of the hospital. The pattern or method of procedure will undoubtedly vary from hospital to hospital, the central emphasis being placed on the recognition and application of the principles involved.

Two principle patterns, with minor variations, appear to be evolving, with certain different learning values to be derived from each. The basic difference lies in the selection of patients for discussion. In one, certain patients with social problems are selected by the resident or other clinician. In the other, unselectively, patients one after another on the ward are discussed on a systematic basis. Values to be gained from the first method may be substantial in the resident's better understanding of those patients under discussion, and of the social resources necessary and available or lacking. Much real need may be met in this way. However, many social problems selected and readily recognized by the resident may be as chronic and impervious to social help as they are easy to detect. In the second method, by a review of *all* patients, the resident receives help so that he may learn to identify the more subtle symptoms of medical social difficulty, to participate in the prevention of their progression or recurrence, and thus to shorten the duration of illness and hospitalization.

APPENDIX 1

EXAMPLES OF THE SOCIAL INGREDIENT IN ILLNESS.

CASE NO. 1. A young anxious veteran, with a large family, in serious financial difficulty and a complicated housing situation culminating in impending evictions, had had a lengthy hospitalization for dermatitis, not yielding to medical treatment. In requesting discharge from the hospital, because he felt he was wasting the time of the doctors and of everyone else, the patient explained, "When I worry about my family, I scratch. When I scratch, the pain hurts more, so I get upset and scratch even more. The lesions get worse, and so the treatment cannot do me any good!"

CASE NO. 2. A 50 year old World War I veteran postal employee recently widowed, with two sons aged 10 and 12 in one household and a dependent aged mother severely crippled with arthritis living alone in another apartment near by. The patient, ill with severe hypertension, had been extremely restless in bed, acutely disturbed and not responding to treatment.

When the physician in charge requested a social study, it was learned that the patient was greatly worried about his mother and his children. The winter was severe. His pay check due the preceding week had not been delivered to him. All were dependent on his support, and he had no money on hand. Also, the boys now alone, unsupervised at home, had visited him two days before, regaling him with tales of their games with each other and his pistol—which he knew to be loaded!

Improvement in the patient's condition was attributed by the physician mainly to the social services arranged for the patient, judged by the patient adequate both for the emergency hospitalization period and as a permanent family plan.

APPENDIX 2

EXAMPLES OF HASTY INFERENCES, ASSUMPTION AND BROAD GENERALIZATIONS.

CASE NO. 1. A VA Chief of Surgery was enthusiastic about the aspects of rounds that would cultivate better doctor-patient relationship, and stimulate the residents' concern for the patients. Before discharge it is his practice to interview each patient on his service. He said that he often picks up situations "grossly showing lack of consideration for the whole patient." He was particularly distressed the day of our interview, because a blind man in for surgery had been discharged with no concern whatever about how he would return to his distant home. When asked by the Chief, the resident had said, "He could undoubtedly get back the way he had come"—but he lacked the knowledge of how that way was.

CASE NO. 2. A 30 year old, divorced, employed, mother supporting two children, aged 3 and 5 years, in foster homes, had had a stormy hospitalization for rheumatic heart disease with congestive failure. During a discussion about after care plans, involving complete bed care for three weeks with graduated activity, the intern remarked that she could return to her home. When told that she had lived for two years in a rented room with a family with whom she had deliberately discouraged social contacts, the intern seriously replied he was "sure that any landlady would be willing to take care of a roomer who needed help."

CASE NO. 3. A 28 year old veteran recovering from spontaneous pneumothorax (cause not yet determined, but tuberculosis suspected) was being discussed by a group of doctors, some of whom thought that possibly he could convalesce at home. Both father and paternal uncles of the patient had died of tuberculosis. The patient was asked in the presence of the group if he were married. On receiving an affirmative reply, the patient was told, "then you can go home!" No other social facts were known,—such as whether living together or separated, number of children, size and condition of home, health of family, emotional relationships, etc.

Coordination of Cancer Teaching

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Cancer has been recorded as a mysterious aberration of growth since the time of early Egyptian writings in which ulcers of the skin were described that were resistant to healing. Subsequent documents emphasize that cancer has excited the ever increasing interest of inquisitive scientists throughout the centuries. Physicians of the Hippocratic period were acquainted with carcinoma of the stomach and the uterus. Galen's classification of tumors according to nature, tumors exceeding nature and tumors contrary to nature has not been improved on to this day. Morgagni, Mueller, Virchow and others made significant discoveries in later times. A great mass of knowledge about cancer has accumulated, particularly during the last fifty years, yet an understanding of its peculiar manifestations and unpredictable characteristics still eludes us. In many respects, it is just as baffling a disease to twentieth century scientists as it was to Hippocrates and to Galen. Noteworthy contributions by outstanding investigators have helped us master many other human diseases, but in our studies of neoplasia we have not yet succeeded in making significant inroads into the problem. On the one hand, we are familiar with many facts about cancer, yet on the other, we have been unable to correlate these facts in any way that has helped us lower the incidence of, or mortality rates from cancer. On the contrary, both seem to be rising.

Perhaps it was the simultaneous appreciation by many individuals, both lay and professional, of the difficulty of the problem and our basic failure to cope with it successfully that aroused the great interest in cancer that developed during the last decade. Although rumblings of greater activity in the study of cancer were heard in the years immediately preceding the last war, the widespread expansion in this field did not occur until after its conclusion. Even though it may be impossible to explain the origins of this enthusiasm, it seems that we are now engaged in the most expensive and extensive attack on a disease that has ever been seen.

Studies of cancer are directed along two broad channels. The one is concerned with fundamental investigations of its origin and of possible new methods of curing it. The other is devoted to means of improving its control by broadening and increasing educational programs for both lay and professional people, improving medical facilities and services for patients and using existing means for diagnosis and treatment to better advantage.

The importance of this latter channel is emphasized by the estimation that the mortality rate from cancer might be decreased by as much as 30 per cent, if present diagnostic and therapeutic measures were used more effectively. If we are to achieve a lower mortality rate, we must remember

that the foundation on which better treatment of cancer must be based is the average general practitioner of medicine; and we must not forget that the average American patient seeks assistance, first, from his family doctor in his home community, not from specialized departments in large medical centers. The practicing physician may have a sincere desire to keep informed of improving diagnostic and therapeutic methods, but the pressures of medical practice, on the one hand, and the lack of suitable postgraduate courses, on the other, may prevent him from doing so. Postgraduate programs serve a purpose, but an additional means of improving the quality of cancer patient care is for medical schools to offer broader programs in the diagnosis and treatment of cancer to medical students than they have in past years.

The recognition of the need for better patient care as well as better medical school education prompted the committee of medical educators that met with the National Advisory Cancer Council of the National Cancer Institute in 1946 to make recommendations that may uproot deep seated educational methods, not only as they apply to cancer teaching, but also as they are related to the whole field of medical education. The coordination of the teaching of a disease is not a new thought, inasmuch as the science of syphilology has been recognized for years. Yet the concepts of the teaching methods of these two diseases are different and the potential scope of the one is much broader than that of the other. The committee's recommendations to increase the amount of cancer teaching in medical schools and to coordinate these teaching activities under one individual are noteworthy. Cancer is becoming an increasingly important medical problem as our population continues to age and as the science of medicine continues to exert its dominance over other diseases, particularly those of an infectious origin. Therefore, it seems self-evident that more time must be devoted to its instruction.

The coordination of the teaching program by one individual appears desirable. Given a coordinator who has a consuming interest in cancer, a broad general knowledge of its many facets as well as an authoritative ability in more restricted fields in it, and who, at the same time, is a stimulating teacher, an ardent investigator, a leader and an able administrator, any school should be able to establish an effective program. Needless to say, it is impossible to obtain individuals with such qualifications, and those of us who are trying to fill posts of this sort recognize our limitations.

As a result of these recommendations, funds were made available through the National Cancer Institute, and most medical schools have established coordinated cancer teaching programs. One wonders whether it was the true desire of their administrative officers to improve cancer teaching that impelled the schools to embark on this program, or the $25,000 a year that could be obtained to support it. In any event, the effort was started and the coordinators were appointed. The medical specialties represented by them is a matter of some interest. Approximately one-third of those who

attended the informal meeting in October, 1949, were surgeons, another one-third were pathologists and the remainder were internists, radiologists and men who were heads of their own departments of oncology. The predominance of surgeons and pathologists probably represents a desire of medical school administrators to place the responsibility for this program in the hands of men who, in turn, are responsible for the definitive therapy of most patients with cancer or the definitive tissue diagnosis . However, the soundness of establishing the coordinator in one of these two fields can be questioned. It is not the definitive therapy of the patient with established disease or the definitive diagnosis that needs emphasis to the student preparing to practice medicine as much as the signs indicative of early malignancy and premalignancy, knowledge of what further diagnostic measures can be used when these situations are encountered, and knowledge of available therapeutic measures. Recognizing these needs, the committee discussed the feasibility of establishing the coordinating programs in departments of internal medicine where, in fact, the student first meets cancer in the courses in physical diagnosis—an ideal area for the presentation of problems in early diagnosis. The practicing physician must know how to diagnose early cancer and precancer before there will be any noteworthy improvement in cancer survival rates, and the primary objective of the coordinator should be to train the student to do this. Actually, it matters little in what department a coordinator is established, if he realizes that he is responsible for the training of future practitioners of medicine who must know more about cancer than did their predecessors.

Several clear conclusions can be formed from experience gained in the infancy of these programs. First and foremost is the observation that there cannot conceivably be developed a single teaching method which will be applicable to all schools. Each school has different weak points and strong areas. Each has individual problems in its physical and economic structure, its curriculum and in the character of its faculty and of its student body. Therefore, each program must be adapted to the particular institution exploiting to full advantage its strengths and eliminating its weaknesses as far as cancer teaching is concerned.

It would seem that the appointment of a coordinator in a department of surgery, internal medicine, pathology or radiology has a greater chance of success than in one of the subspecialties, or in a department of oncology. A subspecialty would not furnish a broad enough base for the program, and it is unlikely that we are prepared to reorganize our schools on the basis of departments devoted to diseases. If the ideal program is to be achieved, then the coordinator must be given both the responsibility and authority for the care of cancer patients or cancer tissue in his own department. Should his department not exhibit this confidence in him, then the success of the whole medical school program can be placed in jeopardy. Furthermore, the coordinator should be given responsibility and authority for the coordination of cancer teaching in other departments, a difficult task, to say the least.

Every departmental head has been charged with the task of developing his own teaching program and correctly considers this his rightful privilege. He surrounds himself with faculty and resident staffs of his choice and attempts to present a thorough educational plan, persisting in his efforts until he achieves what he desires. It is, therefore, only natural that he might resist suggestions when they come from someone outside the departmental family. However, in the natural course of events, department members usually develop fields of interest of their own and in the course of focusing their attention on them may unwittingly overlook important considerations in cancer teaching. It is sometimes easier for an outsider to note these deficiencies than it is for the department members themselves and it is in situations such as this where the coordinator can work effectively, particularly if he exhibits a desire to help the departments help themselves.

Assuming that the ideal place for the coordinator has been found and that he is assured of complete cooperation from all other departments, the next difficult problem is the curriculum, particularly if new courses are proposed. It is an obstacle of real proportions. The broadening interests and responsibilities of medical educators have filled every available hour of the day, and sometimes of the evening, with courses, and new ones cannot be instituted without either shortening or eliminating some of the older ones. Yet, each one of these established courses may seem important in the plan of medical education, and someone is bound to resist efforts to shorten or eliminate any given course, no matter how unimportant it may seem to others. However, if we honestly assess the changing character of medicine, we can see how essential some changes are. Our population is aging, and people are dying of diseases of the aged with greater frequency than ever before. There is no indication that this trend will stop in the foreseeable future, and a medical curriculum that is not prepared to shift the emphasis of its teaching to the problems of the aged, one of which is cancer, is not fulfilling its obligations to medical students. A medical curriculum should be elastic and adaptable, not inelastic and rigid.

Another problem confronting the coordinator is the faculty. A coordinator cannot, and should not, attempt to be a specialist in the entire field of cancer. The field is much too broad for anyone individual to master. He must have help from interested and capable individuals from clinical and fundamental sciences other than his own. All members of the group must cooperate in the program so that when a student graduates he will have been taught something in all fields of cancer. The maximum amount that should be taught is still open to question. Certainly the minimum is basic information about the diagnosis, behavior and treatment of all common types of clinical cancer as well as presentations of the major fundamental problems in the biology of cancer. It should be the duty of the coordinator to further the program in the weak fields in order that the minimum amount of cancer teaching proposed in the program is completed. The choice of the use of lectures, seminars, visual aids and elective courses as teaching instruments

will depend upon the character of the curriculum and the interests of the faculty in the individual schools as will also the establishment of new courses solely devoted to cancer.

There are other controversies of fact and thought which beset the coordinator that cannot be discussed at this time, but the most important of all and the one that exceeds any of the other difficulties that have been discussed here is the future practitioner of medicine, the medical student. No matter who teaches cancer, what he teaches, how he teaches or when, the teaching will be ineffective unless the intellectual fiber of the student is such that he can assimilate, correlate and apply knowledge. It is unfortunate that by the time a young man or woman begins the study of medicine his educational habits have become fixed, and there is nothing that his medical preceptors can do about them. Whether he sinks or swims depends basically on his own efforts. An instructor may stimulate him, present material to him and direct his studies, but what he learns and remembers will be gained largely from his own initiative.

Unfortunately, the efficacy of our teaching cannot be gauged adequately by any known method. We do have ways of measuring the learning ability of a student and the content of his knowledge, but we have no way of ascertaining how effectively he will apply what he knows. Like the assay of the therapy of cancer, we shall have to wait for a survival period to elapse before we pass judgment on today's programs.

Coordination of cancer teaching is here to stay whether supported by governmental or private resources. The correlation of the efforts of faculty members who have specific interests in cancer should interrelate the fundamental and clinical aspects of neoplastic diseases more effectively than has been done in past years. Furthermore, this general approach is likely to expand into other fields, particularly into the field of cardiovascular diseases. Therefore, it behooves us as educators to adapt our curriculum and teaching methods to the new problems which face us.

The Objectives of Somatology

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In the article titled "The Teaching of Anatomy,"[1] I stated that it is only the starting point, the viewpoint and the objectives that determine whether one is a biochemist, an anatomist, a physiologist, a pathologist, a pharmacologist, or any one of the clinical specialists, at least among graduate doctors of medicine. I also called attention to the fact that the term "anatomy" is a misnomer in that it does not give a true picture of what the subject implies nor of the purposes for which the subject has come to be. I suggested that the name be changed to "somatology." Granting that these beliefs are true, what, then, is meant by the terms "the starting point, the viewpoint, and the objectives" of somatology? Before this question can be answered, a definition of what somatology stands for is needed.

Somatology is the determination and study of the normal living structure of the human body. It started, first, with the timeworn methods of gross observation and dissection; later, of preparation of micro-sections and microscopic study, and then, of the making of serial sections and reconstructions. With these methods alone, it has already grown into a towering study, and it is still growing. More intricate and dynamic methods are now being utilized and still newer methods are being sought. Attention is not now centered only on the study of space occupying structure per se but also on the changes that structure undergoes with time. This first took form in the follow-up of changes that man undergoes from the unicellular ovum to the complex embryo, to the full term fetus, to the toddling infant, to the young adolescent, to the mature adult, and, ultimately, to the senescent; but it is now going on to the follow-up of daily, hourly and even more ephemeral states. All the facts, principles and methods that have been discovered and established, all the knowledge of somatology that has accumulated with the years, all these constitute the backbone and "the starting point" of somatology; "the viewpoint" is the corresponding outlook as developed and modified by these facts, principles and methods, and "the objectives" are the teaching, the application, and the elaboration, in research, of all these facts, principles and methods.

Therefore, one would need to study the facts, principles and methods of somatology in order to be able to go into it, and one's starting point as a somatologist would be the extent of one's grasp of the facts, principles and methods of somatology. All other things being equal, there would be an arithmetical progression in the extent of one's starting point depending on the amount of time and the concentration that one devotes to the study of

1. Acta Medica Philippina, 5:67.75, 1949.

the subject; there would be a geometric progression in one's viewpoint as the extent of one's grasp of the facts, principles and methods advances; and one's objectives, the moment a "state of irreversibility" has been reached, would always concern themselves with the further strengthening of one's grasp of the facts, principles and methods and the propagation in teaching, the further study in application, and the elaboration in research of the same facts, principles and methods.

Teaching is concerned mainly with medical students who take somatology as a part of their course of study and, naturally, the primary objective is to help prepare these students for as scientific a practice of medicine as is possible under the circumstances. The scope of this teaching, consequently, is limited by the nature of the course, but the true somatologist would try to put in his whit to make the medical student want to come back to the subject for a second look if not to take it up seriously as his career. For purposes of both the medical student and the somatologist consequently, only the fundamental facts of somatology need be taken up; however, the pulse of living, the breath of unity, the innate integrity and the completeness with which the different structural units combine to make up the human body should be emphasized. Vitality in living structure is inescapable. On top of this inborn vitality, structure has its own corresponding expression, function, and details of structure have their own corresponding details of function. Structure and its details point to function and its details, and structure, consequently, would make a convenient approach to the study of function.

When changes in structure or structural detail take place, a corresponding change in functional detail also becomes apparent. Sometimes, however, the functional change may seemingly precede and be present without a corresponding structural change. In these cases, however, there is only an absence of demonstration of structural change and not an absence of the structural change. The change in structure is there, only lack of an adequate technique or the inadequacy of a known technique is responsible for the failure of demonstration. Consequently, absence of demonstration of a change in structure notwithstanding, the presence of a change in function should by itself be taken as proof, though admittedly not a demonstration, of the presence of the change in structure. Furthermore, a study of the characteristics of the change in function should give indications as to what the characteristics of the corresponding change in structure should be.

In the same manner, then, that structure is a valid approach to the study of function, so is function as much a valid approach to the study of structure. Somatology can, thus, be applied to physiology, and vice versa. Pathology, which deals with changes in structure and function under abnormal conditions, and the clinical subjects which are ramifications of somatology, physiology and pathology, in the same manner, are fields of application and at the same time useful approaches to the study of structure. The use of physiology, pathology and the clinical studies is especially called for in those branches of somatology where demonstration of structural details and changes

are not yet possible in spite of the fact that functional details and other changes are already evident. In other words, one need not be hampered by the relative inadequacy or crudeness of the classical and the known somatological technics for the demonstration of structural detail, but could go on and, in the time being, get ideas as to what the characteristics of structure are, by using physiology, pathology and the clinics in the study of the part of the body concerned. These other studies, then, would be considered only as more subtle and delicate elaborations of somatological technique and be utilized while waiting for the discovery of new somatological methods which would demonstrate the presence of the corresponding structural details in the end. Barring the discovery of the needed somatological methods, a study of structure in parallel cannot be avoided and functional detail, its characteristics, and changes would be used to "paint a picture" of the corresponding structural details, its characteristics and changes.

In this respect, psychology would be an invaluable approach to neurology, for the mind is the highest and the most delicate of the functions of the brain. Demonstration of the cellular details, the continuity of the connections, and the relations of the nervous system might never reach the precision and the delicacy necessary to explain the working mechanism of the mind and, precisely, the study of the mind would give the indications as to the what, the where, the arrangement, the relations, the how, and the how much of the structural details of the nervous system. And as psychological reactions are mediated through normal receptivity, association and reaction, the same receptivity, association and reaction could be used to sort of manipulate the nervous structures involved and, in a sense, pin-point, mould and demonstrate them.

A raison d'etre behind each minute detail of structure may be taken for granted. Structural detail, in turn, may concern itself not only with morphology and topography but also with other varying degrees of size, weight and even in the number of molecular constituents. On any given point, normality consists of a range or a spectrum of samples. There is not a single rigid standard of normality but only a series of "variations," and abnormalities are only too obvious or too extreme variations from the mean or the mode. When extraneous factors are brought in to bear on normality, the body structures react and adjust themselves to the extraneous factors. The resulting states are thus consequences of the effort of the body structures to react and adjust to the extraneous factors and are to be expected. When this reaction is out of proportion to the number and intensity of the extraneous factors or when the extraneous factors are too numerous and too intensive that the reaction is too much for the forces of the body to take care of, diseased states are set up, and these are the only instances where outside aid is necessary to help the body restore normality.

The raison d'etre to research is that every scientific study maintains its existence and propagates only because of a continued vigilance at seeing to it that the facts, principles and methods on which it stands are valid, and con-

tinously so. There is a continual going over, again and again, of the things that have already been studied; this is the literal meaning of research. Not only is the soundness of the basic facts, principles and methods continually checked and rechecked, but new perspectives, new interpretations, and new elaborations are also discovered; things that might have been overlooked are taken care of. Finally, research also means a pioneering and an exploration at the frontiers of the field of somatology, on things that have not yet been gone into before. Because of all these, research therefore is necessary and inevitable.

Language and Science

There is a third field of collaboration between mankind's oldest communications auxiliary and mankind's comparatively novel achievement. Science has recently cast a new light upon the nature and functioning of language, at least for what concerns language's mechanical side, the production, transmission and reception of sound. Inventions like the telephone, phonograph and radio are the chief devices for the artificial conveying of the human voice, but scientists, diligently laboring upon those appliances, have come forth with revolutionary discoveries concerning man's own production and reception apparatus. The Bell Telephone Laboratories have opened their research facilities to linguistic investigators, and the collaboration of descriptive linguists and telephone technicians has proved of untold benefit to both. To mention only one result of this cooperation, there has been devised a visual language for the deaf, whereby phonetic graphs are flashed on a screen by the use of the cathode-ray tube, with sounds electrically resolved into pitch, loudness and time. On the screen, a word like "we" looks like a tree bending in a high wind, slanting to the right; "sure" is like a diving airplane; the sound of laughter resembles a row of feathers. This device is useful in teaching the born deaf to speak, and also gives linguists a perfect insight into various phonetic differences concerning which doubts had previously existed. (Pei, Mario: Study of Language. J. B. Lippincott Company, Philadelphia. 1950. p. 272.)

We Ask Them in This Manner

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Previously, in this JOURNAL, I discussed the problems facing the members of the Admissions Committee of the University of Kansas Medical School on the matter of "What Shall We Ask Them."[1] Uppermost in my mind then was what should be the content of an interview that would enable the Committee to arrive at a decision as to the ability of the applicant to study medicine successfully.

I now present the manner in which the Admissions Committee functions at the University of Kansas.

We are continuously modifying our procedure to meet what we feel is a more adequate technique of interviewing. Under Dean Franklin D. Murphy's guidance and suggestions, the type of admissions procedure is as follows: The Committee consists of ten men, including the Dean, who acts as chairman. The other nine men are divided into three teams of three staff members each. The Committee meets at stated times until all applicants are interviewed. We are assigned 15 prospective students at each session. These students, in groups of three, sit across the table from the Committee members. After formal introductions, a less reserved attitude is assumed and very informal questions are asked, especially those intended to open up a lively discussion on some exciting phase of modern life or a controversial subject. The purpose is to put the student at ease and, in a spirit of good fellowship, thus enabling him to express himself naturally.

From the questionnaire, and previous records, vital information is already before the interviewer. Whether a knowledge of this predisposes us to make decisions previous to the interview, is hard to say.

The topics of conversation opened up usually run along the following subjects: (a) Is euthanasia good for the profession? (b) Will atomic warfare exterminate the human race? (c) What are the attributes a doctor should possesses, and do you think you have these? (d) Is socialized medicine making any headway in America? What do you think of the British system? There are of course, many, many others as these are only samples. We take advantage of an applicant's interest in his hobbies and allow him to express, at great length, his interest in these fields. As you can see from the personal data (questionnaire) that here, also, is a rich source of material for discussion.

There are several advantages of this panel type of interview. Some of

1. Roofe, Paul G.; What Shall We Ask Them? J.A.A.M. Colls., 22: 302-306, 1947.

these are listed as follows: (a) This type of interview is least formal and the student is much more at ease. (b) Men of the same age and background do not necessarily have to be interviewed together. The age group is more important but background makes for keen interest in the discussion. (c) The interviewers will obtain from a single answer to a question a slightly different impression, but, in the main, the concensus is mostly unanimous. (d) The most important aspect is the time element. The student spends only from 30 to 45 minutes in an interview. When one team sees about 75 men for the entire season, this can be accomplished in five afternoon sessions, usually on Saturday afternoons when all can be present. (e) The student is also given an opportunity to ask questions which help greatly to clear up not only misunderstandings, but is a "give and take" conversation. (f) It is not intended that this interview be as one conducted by a psychiatrist, a vocation guidance person, or a counsellor. It is a wholesome thirty minutes of conversation and observation.

From the interview, the interviewer's record is filled out. It is a short summary of impressions with remarks. Naturally, these remarks by the interviewers, after the applicants have left the room, may, in a small way, influence individual decisions. Surprisingly enough, at the final meeting of the panel of all the Committee, the majority of opinions agrees very well.

At the final session, the class is chosen. It usually lasts about eight hours. The entire roster is gone over applicant by applicant. Those who receive a unanimous consent vote (where there are no questions whatever on the part of the faculty) are given a designated sign indicating their acceptance. Those who obviously cannot be admitted are given a negative sign. Those whose position, for several reasons, are in doubt, are carefully debated. It is this group that consumes the greater share of time spent in this last session.

This type of approach to the problem of admissions has been fairly satisfactory. Ten men come to bear on all applicants in more or less a unanimous decision. Unquestionably, it relieves the Dean's office of considerable pressure if it can be said ten men are agreed that John Doe can or cannot be admitted.

It has been a good natured joke that many of our applicants want to practice in rural Kansas (Who has not heard of the Murphy Plan?). We do know, with reasonable confidence after an interview, the applicant's social background; his relationship to his local community, and the State as a whole. We like our plan; it works and it is more free from criticism than previous methods used.

Since it is becoming increasingly more difficult to recruit good teachers and investigators in the whole field of medical sciences, it behooves all members of the Admissions Committee to be on the alert to emphasize this need in talking to prospective candidates to our medical schools. We encourage them in their desire to study in this field.

UNIVERSITY OF KANSAS
SCHOOL OF MEDICINE
PERSONAL DATA

APPLICANT_____

1. Vocation of father_____
2. Reason for wishing to study medicine_____
3. Extra-curricular activities and hobbies_____
4. Married_____Number of children_____Does wife work?_____
5. Military service (give branch)_____
   Dates_____Higest rank attained_____
6. Payment of tuition and fees for my entire course in Medical School is guaranteed from the following sources_____
7. If you expect to work during your medical course, please indicate below your estimate of how much you expect to work.
   First year_____How many hours per week?_____
   Second year_____How many hours per week?_____
   Third year_____How many hours per week?_____
   Fourth year_____How many hours per week?_____
8. Please indicate below any work you have done during vacations, since graduation, et cetera. Please give dates.
9. Probable location after graduation_____
10. My present classification in college is_____
    (Junior, senior, graduate)

INTERVIEWER'S RECORD

Date_____

NAME OF APPLICANT_____Residence_____

SCHOLASTIC RECORD

Total average_____
Premedical
Science Average_____

MEDICAL COLLEGE ADMISSION TEST PERCENTILES

General Ability_____
Understanding
Modern Society_____
Premed. Science_____

PERSONAL CHARACTERISTICS	Superior	Good	Fair	Below Average
Appearance				
Personality				
Initiative				
Ambition				
Interest in Medicine				
Outside Activities				
Poise				
Courtesy				
Alertness				
Achievement				

SUMMARY

Applicant is

_____Very desirable _____Fairly desirable
_____Desirable _____Undesirable

REMARKS

Validity of the Professional Aptitude Test in Medicine

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This communication is prompted by the recent article appearing in this Journal by Ralph and Taylor[1] comparing the Professional Aptitude Test for Medicine (now called the Medical College Admission Test) with the General Aptitude Test Battery. In that paper reference was made to an Iowa Study. It is my purpose to present the latter data more completely and to discuss some of the problems of interpreting validity data. No review of other studies on this topic will be presented since this was adequately done in the aforementioned article.

The present report is based on correlations and other measures obtained between the test scores and grade point averages of 81 students who entered the College of Medicine at the State University of Iowa in September, 1947. Table 1 presents these data with the variables in the table identified as follows:

PROFESSIONAL APTITUDE TEST

1. Scientific verbal ability
2. Social verbal ability
3. Humanistic verbal ability
4. Composite verbal ability
5. Quantitative ability
6. Index of general ability
7. Premedical science achievement

SCHOLARSHIP RECORD

8. Grade point average in premedical science (A = 4, B = 3, etc.)
9. Grade point average in first year of medicine (the criterion).

Insofar as these several measures are predictive of success in the first year of medical studies, the coefficients of correlation in line 9 may be regarded as coefficients of validity. It will be noted that three items are high enough for further consideration. They are the correlations between grade point average in premedical science and the criterion ($r = .55$), PAT premedical science achievement test score and the criterion ($r = .48$) and premedical science achievement and premedical science grades ($r = .49$).

In most psychological tests, coefficients of correlation between test score and criterion ranging from .40 to .60 are usually considered fairly good evidence of validity for the correlation between a single aptitude test and success in the area being predicted. These findings are the more significant and meaningful when it is considered that this class was selected *without reference to the Professional Aptitude Test results.*

Now a problem must be raised which is seldom considered in reports regarding the validity of this and many other aptitude tests. That is the problem of "limited range of talent." The range of talent included in the population on which the correlation is computed affects the size of the correlation coefficients obtained on it. Using the same battery of tests, higher intercorrelations will be obtained where the range of talent is wide than where it is restricted. The present highly selected group obviously is a case of limited range in talent. The group includes few or no students at the lower levels of ability either on the test scores or grades in premedical science (Table 1).

Kelley[2] has offered a method for correcting an r for a range of talent different from that of another with which it is to be compared; in other words, for inferring what an r would be in one range of talent knowing its size in another range of talent. Peters and Van Voorhis[3] comment on Kelley's formula and develop a different method for arriving at the same result. In this computation it is possible, knowing at least an approximation of the standard deviation in the universe (PAT $\sigma_\mu = 100$), the obtained correlation in the sample of limited range and the standard deviation in the limited sample to infer the most probable correlation in the universe (wider range of talent). While this may not be of as practical value in prediction, it does nevertheless express the validity of the PAT premedical science achievement test in more general terms. The computation of this coefficient of validity for a wide range of talent yields an r of .73. Loosely stated, this might be interpreted as indicating the validity of the test in predicting the probability of success in medical school of all those who applied for admission. This coefficient accounts, incidentally, for more than one-half of the variance between the two items.

Like the results reported by Ralph and Taylor, our findings may be thrown into a correlation matrix and a shrunken multiple coefficient of correlation computed. In the course of making this computation, the multiple regression equation can be written entries into which will yield mathematically stated predictions. In the present data, the three r's noted above were used along with their means and standard deviations. This produced an $R = .60$. The standard error of prediction is .49 or almost one-half of a grade point. The equation reads,

$X_9 = .002X_7 + .549X_8 - .43887$, in which

X_9 = First year medical grade predicted

X_7 = Obtained score on PAT premedical science achievement test

X_8 = Obtained grade point average in premedical science subjects.

Thus, should one wish to make such a mathematical prediction of success in the first year of medical studies, appropriate entries could be made and the grade point average at the end of the first year could be expressed. For example, suppose a freshman medical student to have entered with a premedical science average of 3.750 and a score on the PAT premedical science achievement test of 600. Entering these values in the formula for X_8 and X_7, respectively, yields $X_9 = 3.259$, which represents his predicted grade

point average at the end of the first year of medical school plus or minus the standard error of estimate of .49. In other words, it is predicted that the chances are two to one that his grade point average will fall between 2.769 and 3.749.

TABLE 1.—INTERCORRELATIONS, MEANS AND STANDARD DEVIATIONS AMONG SEVEN SUBTESTS OF THE PROFESSIONAL APTITUDE TEST BATTERY AND PREMEDICAL AND MEDICAL SCHOLARSHIP.

Variable	1	2	3	4	5	6	7	8	9
1									
2	.37								
3	.47	.63							
4	.75	.82	.86						
5	.19	.29	.16	.26					
6	.70	.81	.80	.94	.56				
7	.70	.49	.44	.67	.30	.68			
8	.38	.50	.40	.52	.24	.54	.49		
9	.38	.25	.21	.35	.17	.34	.48	.55	
M	525	542	526	535	568	547	540	3.077	2.418
S.D.	88.2	72.1	72.1	69.3	76.7	66.1	78.4	.46	.61

Some admissions officers have expressed disappointment in the low correlations between some of the subtests and criterion grades, for example, the Modern Society test on the present Medical College Admission Test battery. It should be recalled that this test was included not so much as a predictive item as it was in response to the growing notion that the physician of the future must be one who is aware of the social implications of modern medicine and the fact that the physician is being called on to play an increasingly more important role in modern society. It is my opinion that results reported on this subtest should be regarded only as information relative to the candidate's background of knowledge of social institutions as gained in his liberal arts premedical course of study. As such, it becomes useful in the selection process.

SUMMARY

Data have been presented indicating the relative validity of various portions of the Professional Aptitude Test in Medicine and other measures based on a study of the performance of 81 freshman medical students in the College of Medicine at the State University of Iowa. It has been demonstrated that at Iowa the premedical science achievement test scores and premedical science grades offer fairly acceptable coefficients of validity when the criterion is first year medical grades. It was further shown that combining these r's produces a multiple correlation coefficient of even higher predictive power. The multiple regression equation which might be used for prediction was written and demonstrated. In addition the problem of "limited range of talent" was discussed and an inferred validity coefficient of .73 was computed for a wider range of talent.

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The Literature-Science Group in the Medical School

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Background

The teacher, laboratory scientist, or physician frequently cannot fulfill completely his classroom, bench and besides responsibilities and be familiar with reports of advances in his own and related fields. Even before scientific publishing had begun to recover from wartime dislocation, it was estimated[1] that about 750,000 original papers appear annually in worthwhile periodicals. Increasingly, individuals and groups who are specialists not in library, clinic or laboratory technics, but in science communications, are called on to reopen the clogged channels of information. The American Chemical Society, by establishing recently the Division of Chemical Literature, recognized the existence of such a specialty at the professional level.

The information officer of the Medical Division, Army Chemical Center[2], has the following functions of interest to medical and allied staffs of educational institutions: searching literature and furnishing information to personnel; surveying and preparing critical summaries of literature from other organizations; obtaining and circulating copies of reports that might be of value to personnel; statistically analyzing and evaluating data to determine volume of experimentation and percentage of results necessary to secure valid conclusions; preparing periodic and special reports on progress of research; attending and reporting on meetings of associations pertaining to medical research and others.

On the basis of my experience as executive officer of the literature research unit in an industrial research division it was easy to list 26 possible functions of such a unit in a university medical school. The reader probably can add many more.

Response of Fellow Staff Members

A list of 26 possible activities and an accompanying letter were sent to 107 full time members of the University staff. The Colleges of Dentistry, Medicine and Pharmacy were covered completely, and selected members of the Departments of Chemistry, Physics and Zoology of the Liberal Arts College were included. Addressees were asked to indicate for each item (1) their approval or disapproval of it as a proper function for the proposed group; (2) the probability of their use of the activity if it were initiated; and (3) their desire to collaborate in each item of the program. Activities were grouped under three headings: service, teaching and research. The last heading referred to research in technics of science communications, carried on by members of the literature-science group.

Returns were received from 26 full time staff members, or slightly more than 24 per cent of the addressees. This response compares well with that to other unofficial questionnaires circulated on the campus, especially in view

of the fact that this one was undertaken during the summer, when many of the faculty were absent. Each item received some affirmative response: "approve" indications ranged from 9 to 19 (mean, 15); "might use," from 3 to 12 (mean, 6); and "might collaborate," from 2 to 9 (mean, 5). The items follow, ranked by total number of responses. The number of prospective collaborators, in parentheses, follows each item.

Thirty five; translations of journal articles or other reports, on request by a staff member (4). This item had first rank under "approve" and "might use."

Thirty two; (a) reporting of scientific and professional meetings (9); (b) scanning, marking and routing of journals in accordance with stated teaching and research interests of the staff (8).

Thirty one; the writing of full scale, interpretative reviews, either on request or at the initiative of the literature-science group (4).

Thirty; (a) the publishing of bibliographies on request (8); (b) consultant service in the planning of experiments (7); (c) the publishing of a house organ, to contain notices of meetings, changes of staff, visitors, work in progress or recently completed, staff bibliographies, civic and professional activities of staff members, and original research reports (8).

Twenty nine; (a) publishing of a literature information bulletin (regular annotated bibliographies of current publications, classified according to staff interests) (8); (b) instruction of students and staff in technics of small scale publishing (6); (c) instruction in technical writing, including style and logic (6); and (d) research in microfilm, microcard, and microjournal methods of publishing (5).

Twenty eight; (a) preparation of research material for press release and other public relations uses (6); (b) research in the history and philosophy of science and the professions (6).

Twenty seven; (a) an orientation course for higher degree candidates, including the history, literature, and technics of their special fields, experiment design and judgment of evidence (5); (b) research into the general trends in science communications (5); (c) the writing of reviews for extramural publication stressing relations of two or more fields (5).

Twenty six; (a) teaching the history of science or of a science, to undergraduates (4); (b) teaching the technics of science writing for lay public, and adult education (4).

Twenty five; (a) the writing of objective surveys of literature, on request of staff members (6); (b) consultant service in matters of literary style (3); (c) instruction for students majoring in literature-science (3).

Twenty four; consultant service in methods of keeping laboratory and clinical research records, including proofs of priority for patent purposes (8).

Twenty three; (a) consultant service in matters of judgment of evidence, in scientific writing (2); (b) aid in intramural publishing of laboratory and clinical manuals, reviews, compendia, monographs and the like (4).

Twenty two; the writing and circulating of abstracts of English-language publications, upon request (6).

Twenty one; research in the use of punched cards in filing and assembling research and other published information (2).

The group of prospective collaborators included:

(1) chairman and full professor of the Department of Surgery; (2) acting chairman and associate professor of the Department of Bacteriology, Public Health and Preventive Medicine; (3) chairman and full professor of the Department of Biochemistry; (4) chairman and associate professor of the Department of Pediatrics; (5) associate professors in anatomy and pharmacology (2); (6) assistant professors in pediatrics and physiology (2); (7) instructor in pediatrics; (8) assistant in medicine; (9) medical librarian; (10) circulation librarian and supervisor of the University Library; and the reference librarian of the University Library.

The prospectus of a literature-science group was drawn up to undertake in its first year the following operations: (1) production of a biweekly literature information bulletin, items appearing in which would be abstracted, translated, photocopied or otherwise processed at the request of staff members; (2) consultant services in the planning of experiments in laboratory or clinic, the interpretation of data and the reporting of results either in writing or orally before professional bodies; (3) the use of punch-card technics for coding, filing and searching; and (4) exploration of the possibilities of microphotooffset dissemination and holding of reports of all sorts.

The group might be organized as a section of a department (it was conceived as a section of the Department of Physiology); or as one of the service sections of the Office of the Dean, coordinate with the purchasing section and the library; or as an interdepartmental literature laboratory or institute, independent of any single departme . and responsible directly to the Dean of the medical school.

The staff necessary for such work would consist of a director (Ph.D. or M.D. or both) who would give the unit full time except for his teaching commitments; a full time secretary; a messenger; a photographic technician; and volunteer, part time professional-level collaborators.

Cost of establishing the group (including salaries and the cost of office and photographic equipment) for the first year of operations was estimated at approximately $11,000. After the first year, one-half of this amount would cover salaries and running expenses.

An agency of the federal government offered to contribute one-half of the founding and running expenses for the first year, if the University would contribute the other half. For administrative reasons this turned out to be impossible. The project seems to be dead at this institution. The faculty's interest and willingness to collaborate, however, indicate that such a group might be of value at another institution. The outline of the literature-science unit's background and functions is presented, accordingly, in the hope that it may help others.

When some of this subject-matter was presented at a meeting of the American Chemical Society, and again when my report was published[3], audience and readers were asked whether such a unit existed in any academic organization. None has been reported. An opportunity is presented for pioneering in education, and in research and educational administration.*

* Detailed awareness of the problems of science communications, and of some of the technics for their solution, was gained in the Literature Research Department, Research Division, of Smith, Kline and French Laboratories in Philadelphia, to whose personnel I express my indebtedness.

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Language and Science

The language of science is truly international, because all languages have unlocked the treasure-chests of their vocabularies to science. Greek, which supplies large segments of our conversational and literary tongue, is also responsible for about half of our total scientific vocabulary, as is appropriate for the tongue of Hippocrates and Galen. Words like "gastrogue" and "plasmagene" in nutrition, "psychosomatic," "cybernetics," "mania" and "phobia" in medical psychology, "plankton" and "hydroponic" in biology, "therapy," "antibiotic," "gerontology" and "periston" in medicine, "erythrosuchus" and "pterodactyl' in paleontology, "hypergolic" in jet propulsion, "isotope" and "betatron" in atomic research, come straight from Greek. "Atom" itself is the Greek atomos, or "indivisible," a term first applied by James Dalton, who developed the atomic theory in 1808; that this coinage was a misnomer is indicated by the present state of atomic fission, or "splitting of the unsplittable," but that is of little moment. Generic scientific suffixes come from Greek, like the -atrics used to denote a branch of the medical science ("geriatrics," the study of the diseases of old age; "pediatrics," the disease of children), or the -itis ("appendicitis") used generally to describe an acute, inflamed condition, or the "-osis" ("acidosis") that usually denotes a more chronic state of affairs. (Pei, Mario: Study of Language. J. B. Lippincott Company, Philadelphia. 1950. p. 273.)

MEDICAL EDUCATION

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Saving Unclaimed Dogs and Cats for Medical Studies

In 30 medical centers unwanted animals at city pounds are saved from useless destruction and made available for vital health studies.

The arrangements fall into seven classifications.

1. *Agreement with Private Animal Welfare Groups Operating Pounds.*

In Augusta, Ga., today, and in Syracuse in former years, the local animal welfare group adopted a policy that animals needed for research should be supplied from among those unwanted creatures which would otherwise be uselessly killed in the pounds they operated.

In a city on the Pacific Coast the humane society has adopted this policy but fears that a public announcement of it will bring storms of vituperation from antivivisectionist fanatics throughout the world.

In addition to these communities, the humane societies in Louisville, Memphis, and Omaha save animals for medical studies, either by ordinance or under contract terms.

2. *Contract for Private Operation of Pound Specifies That Unclaimed Animals Be Made Available for Research Use.*

In some cities power has been delegated to the health department or police department to enter into a contract with a private welfare organization for the impounding of stray dogs and cats. In such cases it is feasible to have the terms of the contract provide that animals otherwise slated for destruction be made available upon request to research and teaching institutions certified by the board of health. Louisville was the first city in which such a specification was incorporated into the contract of a humane society operating the pound. Memphis also has such an arrangement.

3. *The Terms of Pound Operation Contracts Are Specified by Law.*

Laws on the state level in Minnesota and Wisconsin and on the local level in Baltimore, Buffalo, St. Louis and Omaha designate that unclaimed, unwanted pound animals be made available to certified scientific institutions. These laws governing the disposition of animals seized and held under the police powers of the state apply no matter how the pound is run. The disposition of pound animals is also controlled by law in Houston and in Chicago, Des Plaines, Wilmette, La Grange and Park Ridge, Illinois.

4. *Municipally Operated Pounds Provide Animals for Research as a Matter of Administrative Policy.*

It is administrative policy to make unclaimed animals available to scientific institutions in Atlanta, Birmingham, Charleston, Cleveland, Dallas, Denver, Detroit, Little Rock, Morgantown, Nashville, Richmond, Rochester (New York), and Salt Lake City.

5. *Ordinance Specifies That Unclaimed Animals Are to Be Made Available When Needed for Scientific Studies.*

Ordinances specifying that unclaimed animals are to be supplied for research are in effect in St. Louis, Houston, Baltimore, Buffalo, Omaha, and in Chicago, Des Plaines, La Grange, Park Ridge, and Wilmette, Illinois.

Negative legislation on this point has been adopted by the County Boards of Los Angeles, Riverside, and Alameda Counties in California, and by Kent County in Michigan.

6. *State Law Specifies That Unclaimed Animals Are to Be Made Available When Needed for Scientific Studies.*

Minnesota and Wisconsin were the

first states to adopt laws requiring every public pound to save for experimental use, when needed, animals otherwise killed.

7. *Research Institution Provides Pound Facilities.*

The University of Texas, Medical Branch, at Galveston and the University of Iowa at Iowa City provide pound facilities. Stray animals picked up by police officers are held at the pounds at the colleges for the legally specified claiming period and then they are disposed of in one of three ways: (1) Adopted as pets by new owners; (2) Used in scientific studies; (3) Killed.

Which of these seven arrangements is best is dependent entirely upon local circumstances. Generally speaking, however, the arrangements which enjoy the cooperation of local humane organizations and local officials are the most satisfactory. (Bull. Nat'l. Soc. M. Research, Nov.-Dec., 1950).

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Trends in Giving

Elsewhere in this issue of Medical Education is published a paper written by Arnaud C. Marts which should be read carefully because it presents a picture that is contrary to present day beliefs about the source of outside funds to bolster up the shaky finances of medical schools. Always it is being said that the days of giving by individuals and organizations are past and that whatever money is to come to underwrite medical education must come from governmental sources because individual sources have dried up. Mr. Marts presents a picture which refutes very definitely all of these thoughts and beliefs about giving and fund raising. His data are based on a comparison of contributions of income tax payers in the upper brackets. The difference between incomes and contributions is staggering. For example, in 1947, the incomes of taxpayers in the $500,000 and over group were only 42 per cent of the income in 1922-1929, but their contributions are 94.4 per cent. A survey of the $150,000 to $500,000 group in 1941 showed that there were only 80 per cent in the 1922-1929 group, but their contributions were 163 per cent. For one group whose incomes ranged from $25,000 to $50,000 in 1947, contributions ran up to 312 per cent.

Mr. Marts feels strongly that universities should appoint a full time administrative officer whose only duties should be fund raising and public relations. He feels that college and university administrators have made three important errors in public relations during the past fifteen years. Two of them were errors in what they repeatedly said and published; the third is an error of omission. It was a mistake, according to Mr. Marts, to announce to all who would listen that "the day of large financial gifts to higher education was over." He feels strongly, according to figures quoted, that this is far from being true. A second major public relations error was when administrators began to plan postwar propaganda for federal support for higher education. Mr. Marts calls this "the use of fear approach."

All in all, Mr. Marts' paper is very illuminating and very heartening, and he sees no reason at all for despair.

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Study of Applicants

John M. Stalnaker, Director of Studies of the Association of American Medical Colleges, submits his analysis of the class entering in 1950-51. Inasmuch as the information given in this paper comes directly from the source and has been checked again and again to make certain that it is correct, everyone should benefit by studying the tables very carefully. So many misstatements and misconceptions as to how many students apply and how many of those are accepted have been made that it has become exceedingly difficult to wipe out what is accepted by altogether too many people as gospel. We call attention to this valuable study for the sole purpose of convincing our readers that they should give adequate time to absorbing facts and in their promulgation among the host of individuals who are convinced that conditions are otherwise than is stated in this survey.

Financial Support of Medical Education

In his presidential address to the House of Delegates of the American Medical Association at Cleveland, Dec. 5, 1950, Dr. Elmer Henderson said, in part:

"In the last four years the attention of the public and the profession has been called repeatedly to the fact that the postwar period has been a difficult one financially for our medical schools. Inflation, rising costs, reduced income from endowment, and fewer large benefactions, together with increased responsibilities for education, research and community service, have created problems of varying magnitude for the individual schools. At a time when advances in medical science make refinements and improvements in medical education desirable, schools have found it difficult to secure the funds needed for such developments. Furthermore the present international crisis will in all likelihood create still further problems for the schools.

"During the postwar period, increased local support has been of major assistance to many schools in meeting their financial problems. Other schools, particularly the privately endowed schools, have not been so fortunate. For the most part they have not been able to increase their income in proportion to the increases in their costs.

"The past year's controversy over the question of Federal aid for medical education has made many, both within and without the profession, forget that Federal Aid is but one segment of the problem of the future financial support of the medical schools. Discussions of this subject have tended to be limited to the narrow issue of whether Federal aid is necessary or desirable. Many other sources of financial aid to medical education have been overlooked, and the profession's responsibility to assist actively in gaining additional support for the schools has not been fully recognized.

"Events of the past year have made it clear that there are those who interpret the American Medical Association's opposition to the bills for federal aid to medical education presently before Congress as indifference to the problems of the medical schools and the needs of the Nation for adequate facilities for the training of physicians. We must make it clear that the profession is not indifferent to these problems. Let us face clearly our obligation individually and collectively to provide significant financial assistance to the medical schools and to study other ways by which we can help them meet their problems."

Responding to the challenge voiced by Dr. Henderson that the medical profession take the initiative in raising private financing for hard pressed medical schools, rather than seeking federal subsidies for medical education, the American Medical Association appropriated $500,000 as the nucleus of a fund to be raised for the aid of medical schools throughout the Nation.

This contribution was taken out of its National Education Campaign Fund, which was raised to defend medical freedom, for the aid and support of medical schools which are in need of additional financing.

Dr. Louis A. Bauer, chairman of the American Medical Association Board of Trustees, said: "There is growing public awareness that federal subsidy has come to a burden, not a bounty, for it is bringing intolerable increases in taxation, and is dangerously increasing federal controls over our institutions and the lives of our people.

"American medicine feels very strongly that it should not seek federal aid for medical schools, until all other means of financing have been exhausted. The Board of Trustees announced its belief that funds for this purpose could be obtained from private sources. . . . This appropriation has been made as the nucleus of a fund which we hope will be greatly augmented by contributions from many other sources.

"The Board hopes that this action will become a stimulus to other professions, industries, businesses, labor groups and private donors to contribute to this very important cause of protecting and advancing the interests of medical education and the public health. . . ."

College News

University of Illinois
College of Medicine

An affiliation has been consummated between St. Francis Hospital of Peoria for the purpose of establishing a residency training program in surgery. The staff of St. Francis will be augmented by the appointment of qualified physicians who have received one or two years of surgical experience at the University's Research and Educational Hospitals in Chicago.

The plan will enable the University to train a large number of qualified surgeons, and to give them a more diversified teaching program. In the three year training program for resident surgeons, they will receive instruction at a teaching institution as well as a private community hospital. Dr. Charles D. Branch, chief of surgery at St. Francis Hospital, has been appointed clinical assistant professor of surgery. He will supervise the St. Francis phase of the cooperative program.

An affiliation has also been consummated between Grant Hospital and the College for the purpose of stimulating clinical teaching and organized research programs at both institutions. The affiliation will give Grant Hospital an university connection and will enable it to further develop its teaching and research programs. The University through its affiliation with a community hospital will be able to expand its teaching facilities and will have available a private institution for the use of its professional staff members. Under terms of the affiliation, all members of the present staff at Grant Hospital will continue in their present capacities. New appointments to the professional staff will be correlated by the University and Grant Hospital.

Dr. Warren H. Cole has been appointed chairman of a committee which will select a new head for the Department of Medicine. Dr. Robert W. Keeton, present head of the Department of Medicine, will reach the compulsary retirement age of 68 during the present academic year.

Appointments: Dr. Joseph P. Weinmann, professor of oral pathology; Mr. Oren C. Durham, lecturer in allergy with rank of assistant professor; Dr. Daniel J. Pachman, clinical assistant professor of pediatrics; Dr. Edward Press, assistant professor of preventive medicine.

Retired: Dr. Vernon C. David and Dr. R. J. E. Oden, clinical professor of surgery and associate professor of surgery, respectively with emeritus status.

The department of criminology and legal medicine has been discontinued on the recommendation of Dr. Sophie S. Sloman, head of the department. The functions of the department will be taken over by the departments of preventive medicine and psychiatery and the proposed department of forensic pathology. Dr. Sloman retains her appointment as clinical assistant professor of psychiatry.

A committee of five has been appointed to select a new head for the department of anatomy. Dr. Eric Oldberg will serve as chairman of the committee. Committee members are Dr. Stanley W. Armstrong, Jr., Dr. Robert E. Johnson of Urbana, Dr. Milan V. Novak and Dr. C. C. Pfeiffer. The present head of the department, Dr. Otto F. Kampmeier, has requested that he be relieved from administrative duties on September 1, 1951.

Promotions: From clinical assistant professor to clinical associate professor; medicine, Drs. Stuyvesant Butler and Alva A. Knight; orthopedic surgery, Dr. F. G. Murphy; surgery, Dr. Stanley E. Lawton. From assistant professor to associate professor: public health, Dr. E. A. Piszczek.

From clinical associate to clinical assistant professor: medicine, Drs. Herbert C. Brauhaus, I. I. Ritter, A. H. Rosenblum and G. C. Turner; orthopedic surgery, Drs. William A. Marshall, Leo F. Miller, Fred Shapiro and Horace E.

Turner; pathology, Drs. Aaron Learner, C. C. Mason and C. L. Pirani.

From clinical instructor to clinical assistant professor: medicine, Dr. Willard G. DeYoung; ophthalmology, Drs. H. Isabelle McGarry and Edward A. Pushkin; orthopedic surgery, Dr. J. D. Farrington; pediatrics, Dr. Anne Bohning; psychiatry, Drs. Marjorie C. Meehan and Erich Paschkes; radiology, Dr. John W. Clark; surgery, Drs. C. David Brown, W. G. Diffenbaugh and Harold A. Roth.

From instructor to assistant professor: public health, Dr. Kenneth Morse.

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University of British Columbia
Faculty of Medicine

The Faculty commenced its first year of instruction September 7, 1950. The preclinical departments are housed in temporary quarters on the campus, and clinical teaching will be given at the Vancouver General Hospital and other local hospitals. Instruction during the first year is being offered in anatomy, histology, biochemistry, physiology, history of medical progress, human behavior, introduction to medicine and introduction to public health.

Of some 300 applicants, 60 were admitted. Through the minimum academic requirement is three years of college credits after junior matriculation, 52 students have their bachelor's degree. The acceptance of 18 students with from one to six years of military experience increased the average age of the members of the class to 24 years. Residence in the Province of British Columbia is recorded by 57 students, the remainder include one of the three women students admitted.

The Faculty includes the following members: Myron M. Weaver, dean, formerly assistant dean of the medical sciences, University of Minnesota; Lawrence E. Ranta, assistant to the dean, formerly research associate, Connaught Medical Research Laboratories, University of Toronto; D. Harold Copp, professor and head of the department of physiology, formerly assistant professor, department of physiology, University of California, who is assisted by Edgar C. Black, associate professor, formerly associate professor, department of biology and botany, University of British Columbia; Marvin Darrach, professor and chairman, department of biochemistry, formerly Director of New Products Development at Merck & Co., Limited, Montreal, who is assisted by Sydney Zbarsky, associate professor, formerly with the department of chemistry, University of British Columbia; Sydney M. Friedman, professor and head, department of anatomy, formerly associate professor, department of anatomy, McGill University, who is assisted by Paris Constantinides, assistant professor, formerly senior assistant and instructor in histochemistry, University of Montreal, by Constance L. Friedman, research associate, formerly with the department of anatomy, McGill University, and by William C. Gibson, research clinical associate professor, who is also the Director of Research for Mental Hospitals of British Columbia; Robert B. Kerr, professor and head, department of medicine, formerly associate professor in charge of therapeutics, department of medicine, University of Toronto; and H. Rocke Robertson, professor and head, department of surgery, who is also director of surgery, Shaughnessy Hospital, Vancouver. In addition the following appointments have been made by the Board of Governors: D. E. H. Cleveland as lecturer in medical history, and F. R. C. Johnstone as teaching fellow in the department of anatomy.

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Southwestern Medical School
of the University of Texas

Appointments: On the retirement of Dean Emeritus W. Lee Hart on September 1, 1950, Dr. Carl A. Moyer, professor of experimental surgery, became Dean and Dr. A. J. Gill, professor of pathology, became Associate Dean.

The following new full time members of the faculty have been appointed: Dr. Chas. Burnett, professor of internal medicine and chairman of the department; Dr. Gilbert Forbes, professor of pediatrics and chairman of the department;

Dr. E. E. Muirhead, professor of pathology and chairman of the department; Dr. Herbert Bailey, assistant professor of physiology; Dr. Wm. Burr, assistant professor of biochemistry; Dr. Richard Gilmore, assistant professor of biochemistry; Dr. Donald Seldin, assistant professor of internal medicine; Dr. E. James McCranie, special instructor in psychiatry; and Mrs. Mary Nagler, instructor in biochemistry.

Promotions: Dr. Don Morris to professor of neuropsychiatry; Dr. Thomas W. Farmer to associate professor of neurology; Dr. John Vanatta to assistant professor of physiology; Dr. Ben Wilson to instructor in surgery.

Grants Received: Dallas Heart Association, $4,000 to Dr. Gladys Fashena for study of rheumatic fever and cardiovascular problems. Hogg Foundation, $2,200 to neuropsychiatry for study of effects of clinical procedure in the personal adjustment of problem children. U. S. Public Health Service, (1) $11,680 to Dr. Carl A. Moyer for research on the effects of anoxia, hypercarbia, transfusion, hemorrhage, infusions of saline and dextrose solutions, and various types of artificial respiration on the volume of blood in the lungs, pulmonary gaseous exchange, (2) $9,500 for graduate psychiatry training, (3) $8,845 to Dr. E. E. Muirhead for research on the effect of homogenous kidney transplants on the hypertension following nephrectomy.

A recent action of the Board of Regents of The University of Texas permits Southwestern Medical School students, at the discretion of the Dean, to take any part of or one full year's work in any approved medical school in the United States or Europe to be counted toward graduation from Southwestern provided that on their return to Dallas they can establish proof that the work done elsewhere has been performed satisfactorily.

The Gamma Chapter of Texas of Alpha Omega Alpha Honor Medical Society was installed at Southwestern on November 10, 1950, by Dr. Walter L. Bierring, National President, and Dr. J. J. Moore, National Secretary.

Indiana University Medical Center

A new electron microscope, a rotary microtome and other equipment for the battle against cancer is a gift of the Indiana Elks Association. The new equipment for cancer research represents an investment of a part of the grants totalling nearly $95,000 to the School of Medicine for this program during the past three years by the Elks Association.

When the Indiana State Board of Health moved to their new building west of the Medical Center campus, the former headquarters was taken over by the University. The structure is now being occupied by the Central Laboratories and the course in Medical Technology; offices of the Dean of the School of Medicine; Administrator of the Medical Center; the Medical Director; the Recorder of the Medical School; the News Bureau and Quarterly Bulletin office; headquarters for the Departments of Surgery, Medicine, Anesthesia and Pathology with its general, surgical and students' laboratories. Headquarters for cancer research and teaching coordination also are in the building along with the electron microscope.

Indiana University is now offering a Bachelor of Science degree in Medical Record Library Science, providing three years of study on the Bloomington campus and one year of study at the Medical Center in Indianapolis.

Twelve students were graduated in September as qualified Medical Technologists with Bachelor of Science degrees.

Seven students have completed their year of training in the Department of Radiology. This course, inaugurated last year, qualifies students for all phases of x-ray laboratory work and with an additional year of service as a junior technician for examination by the American X-Ray Technicians' Registry.

The School of Medicine, with the cooperation of the Indiana State Medical Association, has scheduled a monthly series of Telephone Seminars which will be carried by leased wires to gatherings of physicians throughout the state. First

of these was presented November 7th. Fifteen county societies listened in on the program.

Delegates of the Indiana State Medical Association have unanimously adopted a resolution asking the 1951 Indiana General Assembly to appropriate funds in order that the School of Medicine may enlarge its facilities to train more physicians. The school now accepts 150 students in its beginning class each autumn.

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University of Virginia
Department of Medicine

Dr. Edwin Boyle has been awarded a postdoctoral fellowship by the National Institute of Health for studies on the ultracentrifugal analysis of the blood in patients with atherosclerosis under the direction of Dr. William Parson, professor of medicine, and Dr. Jesse Beams, professor of physics.

Dr. Walter O. Klingman, associate professor of neurology and psychiatry, has been appointed a member of the Board of Chief Consultants to the Medical Director of the Veterans Administration, representing the field of neurology.

Two series of twelve weekly lectures for students and faculty have been arranged for the current academic year. Guest lecturers participating in the fall series are: Dr. Allen O. Whipple, Clinical Director of the Memorial Hospital; Col. John R. Wood, Chairman, Medical Research and Development Board, U. S. Army; Dr. DeWitt Stetten, Jr., Chief, Division of Nutrition and Physiology, The Public Health Research Institute of New York; Dr. Hudson Hoagland, Executive Director, The Worcester Foundation for Experimental Biology; Dr. Earl T. Engle, professor of anatomy, Columbia University; Dr. C. P. Rhoads, Director, Memorial Hospital and Sloan-Kettering Institute for Cancer Research; Dr. W. C. Rueper, Cancer Control Branch, U. S. Public Health Service; Dr. Shields Warren, Division of Biology and Medicine, U. S. Atomic Energy Commission; Dr. Chester Jones, Attending Physician, Massachusetts General Hospital; Dr. Joseph E. Moore, associate professor of medicine, Johns Hopkins School of Medicine; Dr. John H. Gibbon, Jr., Director of Surgical Research, Jefferson Medical College. Dr. Palmer's lecture, "The Rationale of Current Therapy for Essential Hypertension," is the first annual Staige D. Blackford Memorial Lecture, established in memory of the late Dr. Blackford by his friends and colleagues. Other lectures in the series are financed by the University, Alpha Omega Alpha and Phi Beta Pi.

Dr. Joseph F. A. McManus, associate professor pf pathology, has been awarded a grant by the National Institute of Health for histochemical studies on inflammation and repair.

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New York University
Bellevue Medical Center

A grant of $27,000 from the Milbank Memorial Fund will be used to train plastic surgeons. The grant will make possible creation of three fellowships for the training of young surgeons in the Plastic Surgery Unit, Department of Surgery, New York University College of Medicine, under the direction of Dr. John Marquis Converse.

Affiliation of a fourth New Jersey hospital, The Mountainside Hospital in Montclair, with the New York University-Bellevue Medical Center is announced. New Jersey hospitals now affiliated with the Medical Center under the Regional Hospital Plan are: Fitkin Memorial Hospital, Neptune; Monmouth Memorial Hospital, Long Branch; Hunterdon Medical Center, Hunterdon County and The Mountainside Hospital. The affiliation with The Mountainside Hospital is the eleventh established by the Medical Center with suburban and rural hospitals within a 100 mile radius of New York City.

19,135 contributors have given $22,002,676.81 toward the $32,744,000 goal of the New York University-Bellevue Medical Center Fund which was launched five years ago.

The Medical Alumni of the University have been numerically the largest group to support this Medical Center project.

now a going concern at 34th Street and the East River Drive, with 7,343 gifts totalling $1,920,198.16. The next group in number of gifts is the Parents Association with 3,529 gifts totalling $958,-591.64 The Commerce and Industry Division through 1,787 contributors raised $1,468,175.01 and 683 Special Gifts totalled $3,787,776.92. The largest single contribution, one in excess of $8,000,000, was made by the Samuel H. Kress Foundation. Special appeals which have had the widest acceptance are on behalf of the Institute of Physical Medicine and Rehabilitation, with 1,869 contributions raising $1,513,065.80, and the Cardiovascular Institute for which 99 gifts raised $1,037,231.25.

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Woman's Medical College

The Class of 1950 has made a gift of $1,030.49 to the Library of the College "for purchasing additional textbooks for the use of students."

The American Federation of Soroptimists, in their June conference in Seattle, Washington, resolved that the club support the Woman's Medical College as the Federation service project. The Board announced a $1,000 teaching Fellowship for the College.

Appointments: Dr. Grant Stone, associate professor and chairman of the department of anesthesiology; Dr. William Tudor Price, associate; Dr. Mary Gray Holderman, clinical assistant. Department of anatomy, Dr. Jean MacCreight, assistant professor.

Construction is underway on the new Nurses' Residence, estimated to cost $650,000. This residence, when finished, will make available the fifth floor of the Hospital for additional beds for convalescent care.

The U. S. Public Health Service has renewed the following grants: To Dr. Ruth E. Miller, $5,448 for one year for "A Study of the Effect of Immune Reactions on the Metabolism of Bacteria;" to Dr. Harold T. Freeman $2,500 for one year for "(1) Determination of Ascorbic Acid Content of Gastric Juice, Sputum, Urine and Blood in Patients with Known Organic G.-I. Disease; (2) Similar Determinations in Normals before and after Vitamin C Saturation;" and to Dr. Harold L. Israel a new grant of $8,661 for a two year period for "Endocrinological Study of Patients with Sarcoidosis."

The winning Exhibit at the 100th Anniversary Meeting of the Pennsylvania Medical Society in October was arranged by Dr. Mildred C. J. Pfeiffer, Director of the Department of Oncology at the Woman's Medical College. The Exhibit showed Newer Aids in Cancer Detection and Diagnosis.

The Woman's Medical College announces the publication of a history of the College entitled: "The Woman's Medical College of Pennsylvania 1850-1950," by Gulielma Fell Alsop, M.D. Dr. Alsop received her M.D. degree from the Woman's Medical College in 1908.

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State University of Iowa College of Medicine

Dr. Wm. C. Huffman, assistant professor in otolaryngology, has received the first traveling fellowship sponsored by the Central Scientific Fund of the College. He will study under Dr. W. G. Hamm, Atlanta, plastic surgeon. These fellowships are given annually by the State Board of Education. They provide for one year of special study to a qualified faculty member.

The Central Scientific Fund has given grants in the amount of $56,437 to support 18 new and continuing projects and to provide trust funds in the basic science departments for research and equipment. The Central Scientific Fund is a financial pool used to support teaching and research. Its source is departmental funds derived from private practice in University Hospitals.

The U. S. Public Health Service has made grants in the amount of $50,952 to support six research projects in bacteriology, anatomy, pharmacology, medicine, and psychiatry.

Two combination teaching and research fellowships in the basic medical sciences are offered for the 1951-1952 academic year. Graduates of any ac-

credited medical college are eligible. Applications must be filed not later than April 1, 1951.

Dr. Willis M. Fowler, professor of internal medicine, assumed the chairmanship of the Executive Committee, July 1, succeeding Dr. Robt. T. Tidrick, professor of surgery. The search for a dean continues.

Dr. John G. Whinery, assistant professor of otolaryngology and oral surgery, has been appointed acting head of the department of oral surgery, succeeding Dr. Ralph A. Fenton, retired.

Freshman enrollment has been increased to 120 at the request of the Iowa Legislature to ease the shortage of physicians. Classrooms have been enlarged; equipment redesigned for basic science training, and laboratory facilities expanded. Additional faculty and staff members will maintain the required student-teacher ratio.

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University of Washington
School of Medicine

Dr. Frank Tietze and Mr. Jules A. Gladner, from Duke University, are working on U. S. Public Health Service Research Fellowships. Dr. Tietze, a Postdoctoral Fellow, is doing research in the field of determining molecular weights of proteins. Mr. Gladner, a Predoctoral Fellow, is doing research in the field of proteolytic enzymes.

A new Public Health Grant has been received by Dr. E. G. Krebs for research on glycolytic enzymes, and Dr. D. J. Hanahan's Navy Lipid Research Grant has been renewed for the coming year.

Dr. R. F. Rushmer and the department of physiology and biophysics have received a grant of $8,748 from the National Heart Institute of the U. S. Public Health Service. This grant will help support the research Dr. Rushmer and Dr. D. K. Crystal are conducting on the application of cinefluorography to angiography and angiocardiography.

The University is considering an Environmental Research Fund for the purpose of providing industry with industrial hygiene services. The fund will be under the joint direction of Public Health and Preventive Medicine, the Engineering Experiment Station, the Department of Meteorology and Climatology, and Civil Engineering and will provide cities throughout the state with consultation services on air pollution problems. This service will be available approximately January 1.

A $19,261 grant was obtained by Dr. Frederic C. Moll of the Department of Pediatrics from the United States Public Health Service for use in research concerning the effects of ACTH and cortisone on rheumatic fever and nephritis.

The Department of Obstetrics and Gynecology received a research grant of $5,000 in oncology from the United States Public Health Service.

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University of Pittsburgh
School of Medicine

An extensive and intensive program of psychiatry and mental health has been initiated by the appointment of three leaders in psychiatry. They are Dr. Henry W. Brosin, professor of psychiatry and head of the division of psychiatry at the University of Chicago Medical School; Dr. Benjamin Spock, distinguished authority on child development and preventive mental hygiene, from Mayo Clinic and the University of Minnesota, and Dr. I. Arthur Mirsky, associate professor of experimental medicine in psychiatry at the University of Cincinnati School of Medicine and director of the May Institute at Cincinnati.

Dr. Brosin has been named Medical Director of the University's Western Psychiatric Institute and Clinic. He will also hold the title of professor and head of the department of psychiatry in the University's School of Medicine.

Dr. Spock will be professor of child development, with appointments in the department of pediatrics at Children's Hospital, the Child Guidance Center, and the Graduate School of Public Health.

Dr. Mirsky will head the research division of the Psychiatric Institute which will aim at correlating biological changes to emotion and psychiatric disorders.

University of Texas
Medical Branch

The fifth annual John O. McReynolds Lecture in Ophthalmology was given by Dr. Arlington C. Krause of the Department of Ophthalmology of the University of Chicago, November 6th. This lectureship was established in honor of the late Dr. John O. McReynolds, a well known Dallas ophthalmologist by his daughter, Mrs. Frank W. Wozencraft.

Dr. Arthur Purdy Stout, professor of surgical pathology, Columbia University College of Physicians and Surgeons, gave a series of lectures during the last week in October on "Tumors of the Soft Tissues" and on "Changing Concepts of Malignancy."

Dr. Peter Gaillard, professor of cytology at the State University of Leiden, Holland, gave a special series of seminar discussions the first two weeks of November on the cultivation of whole organs. Dr. Gaillard is doing special work in the Tissue Culture Laboratory of the Medical Branch in association with Charles M. Pomerat, Ph.D., Director of the Laboratory.

Dr. Peter Martinovitz of the University of Belgrade Medical School gave a series of lectures during the first part of November on whole organ culture. Dr. Martinovitz who received his training in this country at Syracuse University and Yale, is a visitor in the Tissue Culture Laboratory of the Medical Branch in association with Charles M. Pomerat, Ph.D., Director of the Laboratory. Dr. Martinovitz is engaged in studies on the whole organ culture of the adrenals and the anterior pituitary.

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The George Washington University
School of Medicine

A grant of $19,800 for basic research on chemical changes in the adrenal gland has been awarded Dr. Mary Barbara Mills, assistant professor of biochemistry, by the United States Air Force School of Aviation Medicine. The grant is for a three year study. Dr. Mills will use radioactive carbon to investigate changes that accompany stress in the adrenal gland.

Marquette University
School of Medicine

Appointments: Dr. William W. Engstrom was one of three assistant professors named to the staff of the School. A specialist in glandular disorders, he is the first endocrinologist in Milwaukee. Dr. John E. Steinhaus, department of pharmacology, and Dr. (Miss) B. Wesley Catlin, former associate in research at Carnegie Institute, Long Island, N. Y. Dr. Michael W. Shutkin, assistant clinical professor of medicine.

Promotions: To the rank of full clinical professors, Drs. Edward R. Krumbiegel, Milwaukee city health commissioner, department of public health; Gerhard D. Straus, department of otolaryngology; Clement A. Fox, anatomy, and Michael Laskowski, biochemistry.

The "Council Award," highest honor bestowed by the Wisconsin State Medical Society, was recently awarded to Dr. Armond J. Quick, director of the department of biochemistry. Cited for his attainments in the science and art of medicine and surgery, and for his service to humanity, Dr. Quick is noted for his extensive research into the field of blood coagulation and hemorrhage.

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University of Mississippi
School of Medicine

In September, representatives of the Mississippi State Building Committee, the Board of Trustees of Institutions of Higher Learning of the State of Mississippi, the Mississippi Medical Association, the School of Medicine of the University of Mississippi, and the State Board of Health of the State of Mississippi, and architects, made a tour of inspection of ten medical schools on the Eastern Seaboard and in the Midwest to study ideas about building the new School of Medicine at Jackson, Miss.

Promotions: Drs. Calvin F. Stubblefield, to associate professor of pharmacology; James W. Ward, Ph.D., associate professor of anatomy; Louis L. Sulya, Ph.D., professor of physiological chemistry and Acting Chairman of the Department.

Boston University
School of Medicine

Appointments: Dr. Maurice Fremont-Smith, clinical professor of preventive medicine, providing an expansion of the Home Medical Service, a program in domiciliary medical care conducted by the Department of Preventive Medicine. Dr. Fremont-Smith supervises the family study aspect of the program, in which third and fourth year students are assigned to families of low income groups needing medical attention. Dr. Ralph H. Adams, visiting surgeon at the Massachusetts Memorial Hospitals, has been appointed professor of clinical surgery and Dr. Leroy Parkins, head of the New England Postgraduate Assembly, director of postgraduate courses.

A new program in clinical anesthesiology is being conducted by Julia G. Arrowood, M.D., professor of anesthesiology. The course is designed for physicians practising anesthesia in community hospitals who wish to learn the newer techniques in anesthesiology or gain a broader knowledge of the basic sciences related to it. No fees are required, although clinical facilities limit the enrollment to two students at a time.

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Temple University
School of Medicine

The Epsilon Chapter of Pennsylvania, Alpha Omega Alpha, honorary medical society, was installed at Temple, December 1, 1950.

December 15, 1950, marked the opening of a campaign to raise $4,500,000 for the School of Medicine and Hospital. Plans call for the erection of an eight story outpatient building and a private and semiprivate building. When completed this will increase the capacity of the hospital by 250 private and semiprivate beds and an additional 175 ward beds. The Outpatient Department is planned to handle 300,000 outpatient visits per year.

Promotions: Dr. George P. Rosemond, from clinical professor to professor of clinical surgery; Dr. Michael Scott from associate professor to clinical professor of neurosurgery; Dr. John Lansbury from associate professor to clinical professor of medicine; Dr. Louis A. Soloff from assistant professor to associate professor of medicine; Dr. George I. Blumstein from associate to assistant professor of medicine (Immunology).

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Northwestern University
Medical School

Promotions: Dr. Louis B. Newman to associate professor of physical medicine, Dr. Louis W. Sauer to associate professor of pediatrics, Dr. Eugene S. Talbot, Jr., to associate professor of medicine, Dr. John E. Kearns, Jr., to assistant professor of surgery and Dr. Theron Randolph to associate in medicine. Dr. Thomas Cyrus Galloway to professor of otolaryngology, Dr. Harold Augustus Sofield to professor of bone and joint surgery and Dr. Joseph A. Wells to professor of pharmacology.

Dr. Herbert Rattner, professor of dermatology has been appointed chairman of the Department of Dermatology, Dr. Philip A. Lewin, professor of bone and joint surgery, has been appointed chairman of the Department of Bone and Joint Surgery. He will replace Dr. Paul Magnuson who now is professor emeritus.

Dr. Lester A. Nalefski has been named medical director of the Montgomery Ward Clinic. He will supervise clinical work by senior medical students and direct administration of the clinic.

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Chicago Medical School

Dr. Piero P. Foa of the department of physiology and pharmacology has been awarded a grant of $3,339 by the U. S. Public Health Service for the continuation of his work on the study of the utilization of vitamins in diabetes. A grant of $3,000 from the White Laboratories will be used for cardiovascular research by Dr. Aldo A. Luisada, program director of cardiology. A grant of $3,000 has been awarded by Armour and Company. It will be used by Dr. George A. Scheff of the Department of Microbiology and Public Health for research on the splenic hormone principle.

Washington University
School of Medicine

Washington University's plans for a $1,100,000 rehabilitation center at the School of Medicine were given fresh impetus when Mrs. Oscar Johnson, widow of the late shoe manufacturer, handed to Chancellor Arthur H. Compton a pledge to turn over 6,000 shares of the capital stock of the International Shoe Company to be applied to the project. Present value of the stock is $240,000. By terms of Mrs. Johnson's gift, the grant is to be used with other gifts to construct a new building that will house the departments of occupational therapy and physical therapy and research laboratories, in the Washington University Medical Center. Provision is made that if, by January 1, 1956, sufficient supplementary funds shall not have been raised, proceeds of Mrs. Johnson's gift will be used for support, maintenance and development of the Oscar Johnson Institute, a hospital in the medical center for research in otolaryngology and ophthalmology.

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University of Vermont
College of Medicine

Dr. W. E. Brown, Dean, has been appointed to serve as staff associate with the Survey of Medical Education on a part time basis. Dr. Theodore H. Harwood, associate professor of medicine, has been appointed Assistant Dean. Dr. George A. Schumacher has been appointed professor of neurology. Dr. Schumacher was formerly on the faculty of Columbia University College of Physicians and Surgeons.

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Jefferson Medical College

Dr. Wm. Harvey Perkins has resigned as Dean of the College because of ill health. He will remain on the faculty as professor of preventive medicine and head of the department. Dr. George Allen Bennett is the new Dean. He is professor of anatomy, Head of the Department, and Director of the Daniel Baugh Institute of Anatomy.

University of Arkansas
School of Medicine

Appointments: Drs. Hayden C. Nicholson, Dean; Edward C. Jungck, assistant professor of physiology and pharmacology; James W. Headstream, associate professor of surgery (Urology); Eugene H. Wicker, assistant professor of oncology and pathology; William G. Reese, professor and Head of neuropsychiatry (Feb. 1, 1951).

Resigned: Drs. Harry J. Clausen, associate porfessor of anatomy; Walter F. Becker, assistant professor of surgery.

Promotions: Drs. Masauki Hara, from instructor to assistant professor of surgery; Ernest Kerekes, from radiologist to assistant professor of radiology; Albert F. Cunningham, from resident in pathology to instructor of pathology.

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University of Wisconsin
Medical School

An intensive one-day course on cortisone and ACTH, designed to appeal to the physician in practice will be held January 17. The course has been organized and will be supervised by Dr. Edgar S. Gordon, Associate Professor of Medicine, who is in charge of the clinical research being done in this field.

Further inquiry concerning this course should be directed to Dr. Robert C. Parkin, 418 North Randall Ave., Madison 6, Wisconsin.

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Medical College of Alabama

Dr. Tinsley R. Harrison, Nashville, Tenn., has been appointed professor of medicine and acting dean. As professor he will fill the vacancy made by the retirement last year of Dr. John S. McLester, and as acting dean he will carry on the work of the late Dr. Roy R. Kracke.

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Saint Louis University
School of Medicine

Promotions: Dr. Grey Jones and Dr. Leo J. Hartnett to assistant professors of clinical gynecology and obstetrics.

University of South Dakota
School of Medicine

The Cancer Society of the State of South Dakota has awarded $2,000 for a continuation of the study of the phytopharmacological effects of cancerous blood under the direction of Dr. Donald Slaughter and Dr. John Winter of the Department of Botany.

A renewal grant from the U. S. Public Health Service has been made to Dr. Earl B. Scott, assistant professor of anatomy and Dr. Charles Schwartz, research associate professor of biochemistry, to continue their work on the relationship of essential amino acid, calcium metabolism and cancer.

The State Tuberculosis Society has made an award of $500 to Dr. Harold N. Carlisle, Chairman of the Microbiology Department for a project devised to improve diagnostic methods in tuberculosis.

Dr. R. L. Ferguson, head of the department of pathology, has resigned to go into private hospital work in pathology at Joplin, Mo.

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University of Minnesota
Medical School

A continuation course in clinical neurology will be presented from January 29 to February 10. Participants will be Dr. Pearce Bailey, Georgetown University School of Medicine; Dr. H. W. Magoun, University of California Medical School; Dr. Henry Schwartz, Washington University and Dr. S. Bernard Wortis, New York University Medical Center. Dr. Magoun will also deliver the annual J. B. Johnston lecture on the subject, "Wakefulness and Sleep."

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Stanford University
School of Medicine

Stanford will present a postgraduate conference in clinical ophthalmology from March 26 through March 30, 1951. Registration will be open to physicians who limit their practice to the treatment of diseases of the eye or eye, ear, nose and throat. In order to allow free discussion by members of the conference, registration will be limited to thirty physicians.

Programs and further information may be obtained from the Office of the Dean, Stanford University School of Medicine, 2398 Sacramento Street, San Francisco 15, California.

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University of Buffalo
School of Medicine

Dr. S. Mouchly Small has been appointed professor of psychiatry and head of the Department. Dr. Small also will be Director of psychiatry at the Meyer Memorial Hospital.

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West Virginia University
School of Medicine

Appointments: Mr. Mullen O. Coover, assistant professor of biochemistry; Mr. John B. Hyde, instructor in anatomy.

General Education vs. Liberal Arts Education

The danger is that general education may be thought of as something entirely different from liberal arts, or even that it may be made entirely different. The term "general" as applied to education is probably meant to convey at least two distinct meanings, and indeed its breadth of meaning is a prime factor in its usefulness. A general education is first of all an education for everyone fit to be educated. It is an education so generally valuable and useful that everyone capable of abstract thinking may profit from it. (Richards, Irving T.: Bull. A. Am. Colls., 36:386, 1950.)

General News

Conference on Premedical Education

Problems of the qualifications of premedical students, admissions, ways of improving the premedical curriculum and the advisory program for premedical students were among the subjects discussed at the First National Conference on Premedical Education sponsored by Alpha Epsilon Delta, national premedical honor society, in cooperation with the Association of American Medical Colleges at the Lake Placid Club, Essex County, New York, October 21-22, 1950. Programs on premedical education have been held at meetings of various national societies but this was the first national meeting of medical and premedical educators for the sole purpose of discussing problems of mutual interest.

More than 125 premedical educators and about 50 medical educators, including deans, members of admissions committees, and other administrative officials, participated in the two day program which centered on the general theme "Educational Problems in the Preparation for Medical School."

The key speakers included: F. G. Crawford, Vice-Chancellor, Syracuse University, who discussed the problem from the Liberal Arts Colleges' viewpoint, and Aura E. Severinghaus, Associate Dean, Columbia University College of Physicians and Surgeons, who presented the Medical Colleges viewpoint.

"The real objectives of the Conference were achieved in informal round table discussions. One topic for discussion was: "The Preparation and Qualifications of Students for the Study of Medicine." (a) The Premedical Curriculum; (b) The Personal Qualifications for the Study of Medicine; (c) What Do the Medical Schools Want?" Another discussion was concerned with "Admission Problems:" (a) Selection Techniques, Admissions Tests, Interviews, Recommendations, Application Forms, etc.; (b) Restrictions on Admission: Geographic, Sex, Religious, Racial."

Financial plans for the support of medical students were discussed by Robt. C. Lewis, Dean, School of Medicine, University of Colorado; Maria Voskamp, Mississippi State Medical Education Board; and Wm. T. Sanger, President, Medical College of Virginia.

The papers and conclusions of the discussions at the Conference will be published in THE SCALPEL of Alpha Epsilon Delta some time in 1951 and copies may be obtained by writing to Alpha Epsilon Delta, 303 Upland Road, Havertown, Pa.

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Training Course for Cardiovascular Investigators

This course, sponsored jointly by the U. S. Public Health Service, American Heart Association and Western Reserve University School of Medicine, will be repeated for the third time in the department of physiology from July 1, 1951 to June 30, 1952. Professor Carl J. Wiggers will be in personal charge. The course will consist of formalized training in research methods used in cardiovascular research, assisting experienced investigators with current research, independent research under supervision, and experience in the preparation of a manuscript.

While primarily organized for postdoctorate training, a few specially qualified predoctorates may be accepted.

Postdoctorate candidates accepted for training will be recommended to the Director of the National Heart Institute, U. S. Public Health Service, for a research traineeship carrying a stipend ranging from $3,000 to $3,600 per annum depending on their marital status.

For more detailed announcements or application blanks, address Dr. Carl J. Wiggers, Program Director, Western Reserve University School of Medicine, Cleveland 6, Ohio.

Institute of Industrial Health

General Motors today announced a $1,500,000 research project to promote better health for its 446,000 employees as well as the men and women of all American industry. It joined hands with the University of Michigan in establishing The Institute of Industrial Health at Ann Arbor, Mich., whose broad objectives will be research, education and service in Industrial medicine, health and safety. The long range research project, for which the Corporation is making its contribution, will be administered by a board to be appointed by University of Michigan Regents.

Also scheduled for expansion in the Institute's program is GM's pioneering cooperative program between the Corporation and the nation's medical schools whereby graduates from these schools interested in industrial medicine are able to take their in-plant training in GM plants. The Institute will provide fellowships, scholarships, and hospital residences in Industrial Medicine, Health and Safety.

Of the $1,500,000 granted the University for the Institute of Industrial Health, a total of $500,000 will be used as needed for equipment. In addition, an annual payment of $100,000 for 10 years will be made by GM for research and to meet the expenses of fellowships, scholarships, added faculty and other personnel, a clinic and publications and refresher courses for doctors, nurses, and personnel in auxiliary services.

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Scholars in Cancer Research

The American Cancer Society in 1951 will inaugurate a program to help newly trained scholars establish themselves in the field of cancer research. The Grants for Scholars in Cancer Research are designed to bridge the gap between the completion of fellowship training and the period when the scientist has thoroughly demonstrated his competence as an independent investigator. A limited number of American Cancer Society scholars will be appointed annually on recommendation of the Committee on Growth of the National Research Council. A grant of $18,000, payable over three years, will be made directly to each scholar's institution by the American Cancer Society as a contribution toward his support or his research or both.

Medical schools, hospitals, research institutes and other institutions with a primary or substantial interest in cancer research are invited to submit applications for these grants. Requests for application forms should be addressed to the Executive Secretary, Committee on Growth, National Research Council, 2101 Constitution Avenue, N.W., Washington 25, D. C.

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Graduate School of Public Health

The University of Pittsburgh's new Graduate School of Public Health opened its doors for the first time September 25 with an enrolment of 30 students. The school was made possible by a gift of $13,600,000 from the A. W. Mellon Educational and Charitable Trust and is part of the University Medical Center. It will award degrees of Doctor of Public Health and Master of Public Health to physicians, nurses, sanitary engineers, dentist., bacteriologists and others in allied fields. The school also offers special study and research in occupational and industrial health and hospital administration. The Mellon Trust has set aside $5,000,000 of the total gift to construct permanent quarters for the school after it is accredited to grant graduate degrees in public health and after its degrees have been tied in with the university medical science schools and Pittsburgh hospitals.

A number of fellowships for qualified medical men have been announced. A health district is being established in the Lawrenceville area of Allegheny County as a practice field for students. The former U. S. Marine Hospital will be the headquarters of the area. Plans for establishing a rural practice area in Westmoreland County are being advanced.

Book News

Surgery of the Shoulder

By A. F. DePalma, M.D., James Edwards, Professor of Orthopedic Surgery, Jefferson Medical College. J. B. Lippincott Company, Philadelphia. 1950.

Limited entirely to the shoulder, this book is unique. It is astonishing that there is so much surgery related to the shoulder, but the text is convincing. More than 300 illustrations add much to the textual material. The double column arrangement makes for easier reading. Any surgeon interested in this anatomical area will find much to aid him in providing better surgical treatment.

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Electroencephalography: Symposium on Its Various Aspects

Edited by Denis Hill and Geoffrey Parr; text by six authors. Published by MacDonald and Company, London. Distributed by the Macmillan Company, New York. 1950. Price, $13.

Covering the field as it is known today; its use and interpretation of results; equipment needed; how to set it up and use it, with a glossary of terms and an unusually large number of references. A book for the initiate only.

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Bronchoesophagology

By Chevalier Jackson, M.D., Honorary Professor of Bronchoesophagology and Laryngeal Surgery, Temple University, Philadelphia, and Chevalier L. Jackson, M.D., Professor of Bronchoesophagology and Laryngeal Surgery, Temple University. W. B. Saunders Company, Philadelphia. 1950. Price, $12.50.

Presenting current concepts and supplying informative details on important newer developments; an elaboration of former publications on this topic.

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Chemistry Visualized and Applied

By Armand Joseph Courchaine, Instructor in Biological Chemistry, Hahnemann Medical College. Edited by M. Cordelia Cowan. G. W. Putnam's Sons, New York. 1950. Price, $5.50.

Covers inorganic, organic and biological chemistry.

Regional Orthopedic Surgery

By Paul C. Colonna, M.D., Professor of Orthopedic Surgery, University of Pennsylvania Medical School. W. B. Saunders Company, Philadelphia. 1950. Price, $11.50.

Briefly, the author considers the common clinical conditions met within various regions of the body and stresses the principles of diagnosis and treatment. The field is covered thoroughly, with many fine illustrations, which add much of value to an excellent text.

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Modern Abnormal Psychology: A Symposium

Edited by W. H. Mikesell. Philosophical Library, New York. 1950. Price, $10.

A reference and source book treating all aspects of the subject in terms and concepts understandable to both professionals and laymen. The historical background of mental diseases is discussed along with the principal neuroses, psychoses, schizophrenia, mania-depression, and involutional melancholia. Many contributing editors aided in the preparation of the text.

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History of the Woman's Medical College of Pennsylvania

By Gulielma Fell Alsop, M.D., Class of 1908. J. B. Lippincott Company, Philadelphia. 1950. Price, $4.

This book covers the history of the College from 1850 to 1950. It is an interesting and informative recital of the efforts made by women to organize and operate a medical college exclusively for women covering a long period of years when women were excluded from attendance at any other medical college. It is a record of which all those who participated in this work may well be proud, especially since survival was, perhaps, the most important of the objectives for which the college was organized.

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Textbook of Biochemistry

By Philip H. Mitchell, Ph.D. Professor of Biology Emeritus, Brown University. Ed. 2. McGraw-Hill Book Company, Inc., New York. 1950. Price, $6.

Complete revision.

Principles and Practice of Surgery

By Jacob K. Berman, M.D., Associate Professor of Surgery, Indiana University School of Medicine. The C. V. Mosby Company, St. Louis. 1950. Price, $15.

This book follows the line adopted by many textbooks of today, namely correlating the basic sciences with the fundamental principles of surgery. The coverage of the subject is complete. The illustrations are good, numbering more than 400. But why so much bibliography. The undergraduate student surely will not make any use of it and it does much to the size of the book.

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Textbook of X-Ray Diagnosis

Edited by S. Cochrane Shanks, M.D., Director X-Ray Diagnostic Department, University College Hospital, London, and Peter Kerley, M.D., Director X-Ray Department, Westminster Hospital, London. Vol. III. W. B. Saunders Company, Philadelphia, 1950. Price, $18.

This volume covers the alimentary tract, the biliary tract, the abdomen, radiology in obstetrics, Gynecological radiology and the urinary tract. Nearly 700 illustrations amplify the text. The bibliography is not neglected. All the contributors are British radiologists.

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Progress in Gynecology, Vol. II

Edited by Joe V. Meigs, M.D., Clinical Professor of Gynecology, Harvard Medical School and Somers H. Sturgis, M.D., Clinical Associate in Gynecology, Harvard Medical School. Grune & Stratton, New York. 1950.

With the cooperation of about 75 contributors, the editors offer what may be said to be the progress in gynecology in recent years. In other words, gynecology is brought up to date.

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Medical Entomology

By William B. Herms, ScD., Late Professor Emeritus, University of California. Ed. 4. The Macmillan Company, New York. 1950. Price, $9.

The title of this book is descriptive of the text.

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Physical Chemistry for Premedical Students

By John Page Amsden, Professor of Chemistry, Dartmouth College. McGraw-Hill Book Company, Inc., New York. 1950. Price, $4.25.

Child Psychiatry in the Community

By Harold A. Greenberg, M.D., Senior Staff Psychiatrist, Institute for Juvenile Research, Chicago; Assistant Professor of Criminology, College of Medicine, University of Illinois; Julian H. Pathman, Ph.D., Chief Psychologist, V. A. Hospital, Downey, Illinois; Helen A. Sutton, R.N., formerly Psychiatric Nursing Instructor, Illinois Neuropsychiatric Institute, and Marjorie M. Browne, M.A., Instructor School of Social Service Administration, University of Chicago. G. P. Putnam's Sons, New York. 1950. Price, $3.50.

A primer for teachers, nurses and others who care for children.

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Researches in Binocular Vision

By Kenneth N. Ogle, Ph.D., Research Consultant in the Section on Ophthalmology, Mayo Foundation and Mayo Clinic. W. B. Saunders Company, Philadelphia. 1950. Price, $7.50.

The greater part of the subject matter in this book is based on the researches in binocular vision conducted at the Dartmouth Eye Institute. Summarizing and integrating the significant parts of that work into our general knowledge of visual processes.

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Principles of General Psychopathology

By Siegfried Fischer, M.D., Clinical Instructor in Psychiatry, University of California. Philosophical Library, New York. 1950. Price, $4.75.

The first part of the book deals with the fundamentals of psychopathological concepts; the second part with the psychological connections. In the third part, the pathological syndromes or symptom complexes are described and the diseases in which they are found are designated. The fourth part, deals with the foundations of personality, character and temperament and their deviations in pathological cases.

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An Integrated Practice of Medicine

By Harold Thoams Hyman, M.D. W. B. Saunders Company, Philadelphia. 1950. Price, $10.

An appraisal of latest developments in therapeutics. Contains cross references to the original 4 volumes and an index system to all 5 volumes.

Color Atlas of Pathology

Prepared under the auspices of the U. S. Naval Medical School of the National Naval Medical Center, Bethesda, Maryland. Illustrated with 1,053 Figures in Color on 365 Plates. J. B. Lippincott Company, Philadelphia. 1950. Price, $20.

This is a carefully and beautifully illustrated, slide by slide, study with full explanatory text of the diseases of the hematopoietic system, the reticuloendothelial system, the respiratory tract, the cardiovascular system, liver, alimentary tract, kidney and urinary tract and musculoskeletal system. Everyone interested in pathology will consider this a "must" book. Teachers will find it of great value. Sutdents would, too, although the price may be a deterrent to purchase. The contributors as well as the publishers deserve the highest praise for their courage and efforts to produce this splendid addition to texts on pathology.

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A Manual of Physics

By J. A. Crowther, Sc.D., Professor Emeritus of Physics in the University of Reading. Oxford University Press, London. 1950. Price, $4.25.

Functional Anatomy of the Vertebrates

By Daniel P. Quiring, Ph.D., Associate Professor of Biology, Western Reserve University, Head of Anatomy Department, Cleveland Clinic Foundation. McGraw-Hill Book Company, Inc., New York. 1950. Price, $5.50.

Comparative vertebrate anatomy is discussed from a viewpoint somewhat different from that generally presented in textbooks of this nature. Function is stressed and tied in with structure. First hand observations are the basis of the author's discussions. It is fascinating. Medical students will find much here not only of interest but of value for acquiring a better understanding of the why and wherefore of life and living.

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When Minds Go Wrong

By John Maurice Grimes, M.D. Published and Distributed by the author, 5209 South Harper Avenue, Chicago 15, Illinois. 1949. Price, $5.

A story of the mentally ill, their past, present and future, as envisaged by the author during many years of observation in the field of psychiatry.

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1. King, E. O.; Lewis, C. N.; Welch, H.; Clark, E. A., Jr.; Johnson, J. B.; Lyons, J. B.; Scott, R. B., and Cornely, P. B.: J.A.M.A. 143:1 (May 6) 1950.
2. Herrell, W. E.; Heilman, F. R.; Wellman, W. E., and Bartholomew, L. A.: Proc. Staff Meet. Mayo Clin. 25:183 (April 12) 1950.

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